Evaluation of Property Value Impacts: Non-Profit Housing

Prepared for the Ontario Ministry of Housing
by
Ekos Research Associates Inc.

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Final Report for the Evaluation of Property Value Impacts: Non-Profit Housing

June 6, 1989

Submitted to:

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1.0 INTRODUCTION

1.1 Statement of the Problem

Ontario's Non-Profit Housing Program is the principal vehicle for the delivery of social housing in the province. The program (in conjunction with several important companion programs) fills an urgent public need. This might be described as the provision of adequate affordable shelter for a major sector of Ontario society, who are otherwise unequipped to compete in the tight provincial housing market. For instance, the Homes Now initiative will provide a series of incentives to sponsoring groups (i.e., municipal and private non-profit housing corporations and non-profit housing cooperatives) such that affordable accommodations will be made available to people who cannot afford suitable accommodation. The Ministry projects, that under the Homes Now initiative, 30,000 new affordable rental units will be created over the next few years.

The Non-Profit Housing Program is funded under a joint Federal and Provincial Agreement. The objectives of the program are: (1) to improve overall targeting of social housing; (2) to ensure access to geared-to-income housing to those most in need; and (3) to allow sufficient flexibility in income integration for community acceptance.

The program is situated in a changing policy environment. For example, the Ministry of Housing is also initiating Provincial-Municipal Housing Cooperation Agreements. A major goal of these agreements is to increase the supply of affordable housing in municipalities across the province. For example, in May 1988 a comprehensive housing cooperation agreement was signed with the City of Ottawa which included as an objective: "to develop policies and implement programs designed to meet the target that 25 per cent of all additional housing resulting from new residential (re)development projects be provided as affordable housing."

The path to achieving the goal of decent and affordable housing for all of those Ontarians in need is fraught with many obstacles (e.g., financial resource constraints, shortages of land in certain markets, local municipal cooperation, etc.). One of the most vexing and potentially destructive obstacles is neighbourhood resistance to such initiatives. Neighbourhood resistance emerges through an uneasy mixture of perceived (and real) threats to the social and economic well being of the citizens. Past research has shown many (if not most) of the fears concerning such housing initiatives to be more apparent than real. Yet in such matters what is perceived as reality will become reality. Therefore, it is imperative that public decision-makers and planners have reliable and valid knowledge about the *true* impacts of such initiatives (in diverse neighbourhood settings). Scientific knowledge of these impacts in the social housing field is the principal objective of the present research assignment.

Non-profit housing projects can be a significant source of conflict between residents of neighbourhoods and proponents of non-profit housing projects. Often media reports, municipalities and neighbours fear that these projects will reduce the property values of surrounding properties. In part this fear stems from the past when the types of projects which were completed were large scale high rises entirely devoted to low-income residents. Projects today are smaller scale, designed to complement the neighbourhood and aim to achieve a greater mix of incomes. (A minimum of 40 per cent of the units must be allocated to rent-geared-to-income households.) Nevertheless, the fears still exist. Other concerns include the impacts of the projects on the availability of parking, the level of street traffic, the level of noise and the aesthetics of the neighbourhood.

In light of the concerns about the impact of non-profit housing projects on property values and the Province's committment to develop more affordable housing, the Ministry has identified the need for a credible, scientific study which documents the impact of non-profit development on property values.

A secondary study objective is to determine the perceptions of neighbours regarding the impact of non-profit housing projects on the quality of the neighbourhood (e.g., parking, traffic, appearance, etc.). From our other work and review of the literature we also know that public perceptions often do not accurately reflect objective conditions. However, perceptions are often more potent than real risks in influencing community response.

1.2 Organization of the Report

The following chapter discusses our conceptual approach to the research problem and concludes with a discussion of the relevant research concepts.

Chapter Three describes the data collection methodology. The detailed data requirements used to address the study issues are identified. This chapter also defines the relevant study populations and reviews the sampling strategies. The chapter concludes with an explanation of how the survey was administered and the measures which were taken to help ensure high quality data.

The remainder of this document concentrates on the study findings. Chapter Four describes the results of the economic analysis of the effect of non-profit housing on property values. Chapter Five discusses the findings from the survey of neighbours. The data from these surveys are analyzed to identify public perceptions, current satisfaction levels within each neighbourhood, acceptance of non-profit housing and the factors which might influence this acceptance, perceived impacts of non-profit housing and perceptions of the public consultation process. Chapter Six summarizes the findings from which conclusions about the impact of non-profit housing are drawn.

2.0 CONCEPTUAL APPROACH TO THE RESEARCH

This chapter describes the conceptual approach we are utilising for this study. The purpose of this approach is threefold: i) to identify the major substantive areas of interest; ii) to identify the expected linkages between each area or factor as well as the hypothesised linkages which can be tested with the survey data; iii) to guide data collection and analysis.

2.1 Critical Review of the Research Issues

This section will discuss each of the issues addressed by this study. The intent is to clarify their scope and priority and suggest to what extent they can be addressed given study resource constraints.

2.1.1 The Impact of Non-Profit Housing Projects on Property Values in Surrounding Neighbourhoods

The first substantive issue is the impact of non-profit housing on property values. Sales data retrieved from TEELA Reports were used to address this issue.

Sales data are a nearly *completely reliable* and *valid source* of data. The sale price is an actual, observable, objective measure which was determined by the market place. Sales are a more concrete measure than assessments and are more cost-effectively obtained. Also, they are more likely to be understood by, and be relevant to, the homeowner or home buyer. Sales prices are what they can expect to receive or pay for a home.

In addressing the issue of impact on property values, several potential methodological and logistical problems were identified and correctly dealt with. For example, even if there is a significant difference in the change in property values before and after the establishment of non-profit housing projects, there remain considerable difficulties in attributing the change solely to the establishment of the non-profit housing project. There are many factors which contribute to property values. The five major factors include:

i) the location of the property in relation to the central business district, transportation routes, shopping, schools, work, etc.;

ii) neighbourhood characteristics such as quiet streets, green space, street lighting, etc.;

iii) the quality and quantity of the lot and structure;

iv) broader economic climate; and

v) local market characteristics.

It is naive to think that these factors will have remained constant since before the introduction of the non-profit housing project. In some of the neighbourhoods there may have been changes to transportation routes, considerable rehabilitation activity. changes to zoning by-laws, etc..

Our basic approach addressed this problem through the use of a quasi-experimental design (cf., Campbell and Stanley, 1967).[1] In the absence of a true experimental design (which is practically impossible here), this is the most convincing form of causal evidence possible. Specifically, we used a pre- and post-comparison design using a treatment and quasi-equivalent control group. Those homes near a non-profit housing project are the treatment group. A (roughly) matched control group of similar properties where non-profit housing does not exist were identified. Our basic working hypothesis was that the difference in the rate of change in the mean selling price for the properties surrounding the non-profit housing development before and after the construction of the project is no different than that for the matched control group of properties. Furthermore, broader market forces such as the level of sales activity in the area, the relative economic robustness of the area, the availability of money, interest rates, etc: are all held constant in this design since these effects apply equally to those properties within the project zone of influence and those in the control group.

An important aspect of property values concerns the distance-decay effect. This effect postulates that there exists an inverse relationship between the effect of the project and distance. In other words, as the distance from the non-profit housing project increases the impact on property values will be reduced. Our approach allowed us to examine this issue by the use of *two "zones of influence"*. We thus analyzed property values of those properties immediately surrounding the non-profit project, as well as those up to a block away.

---

[1] In the strictest sense our design is not a quasi-experimental design, but an *ex post facto* design.

2.1.2 Perceptions of Neighbourhood Quality

The next research issue is the perceptions of neighbourhood quality. The introduction of non-profit housing into primarily residential neighbourhoods creates fears among some neighbours. These fears include anticipated decline in property values as well as increased traffic noise, more vehicles parked in the street, etc.. Once the fears are identified, the Ministry of Housing can take the appropriate steps to address them.

2.1.3 Acceptance of Non-Profit Housing

The final issue addressed is the extent to which non-profit housing projects are accepted. The issue of acceptance is a complex one; while there may be acceptance of the non-profit housing concept in general (and thus positive public welfare implications), the impacts of "neighbourhood non-acceptance" might have negative *economic* implications (in terms of property values). Consequently, the levels of acceptance and their impacts on property values become important policy-influencing factors.

2.2 Inventory of Research Concepts

Each of these issues can be viewed as questions requiring a series of research concepts. These concepts are the study variables which must be measured in order to answer the study questions. Good conceptualization, (i.e., identification of the minimum set of study variables necessary to address research issues) is the first step to good measurement. Once we have a clear idea of these concepts we need to measure, we create good observable indicators (e.g., survey questions). Concepts which have been operationally defined (i.e., are empirically measurable) are called variables, and can be considered independent (predictive or explanatory), dependent (the expected outcome), or control (testing the causality between independent and dependent variables).

This section defines the relevant research concepts and discusses the extent to which they were used to address the research issues. The concepts are organised into six categories:

- o Neighbourhood profile;
- o Case study site profile;
- o Property values;
- o Neighbour profile;
- o Concerns and priorities; and
- o Acceptance/preference.

These categories correspond to some extent with the three issues identified earlier. Some research questions require shared research concepts. The inventory presented in this section is cumulative -- each concept is presented once, even though it may have been required several times during the analysis phase to address different study issues.

A description of the neighbourhood required the use of five research concepts: *socio-demographic characteristics; household characteristics; zone of influence; property values; and time of sale.*

Socio-demographic characteristics included factors such as gender and age, marital status, mother tongue, household income and education. Household characteristics included type of tenure (owned, rented), type of dwelling (single house, semi-detached or double house, duplex, row house, apartment, mobile home or other movable property), number of occupied private dwellings, and number of family/non family households. This background information provided a context for examining the case study projects and permitted an objective comparison between the qualities of neighbourhood residents and residents of the case study projects.

An important aspect of this research was to identify the adjacent properties which are affected by non-profit housing. We define this catchment area as the zone of influence. How close to a non-profit project must another unit be for its value to be influenced by the project? Too large a sphere will eliminate some non-profit housing effects. To overcome this problem the zone of influence was divided into two areas, one of primary influence, the other of secondary influence. The scheme proposed in Exhibit 2.1 was used in our analysis.

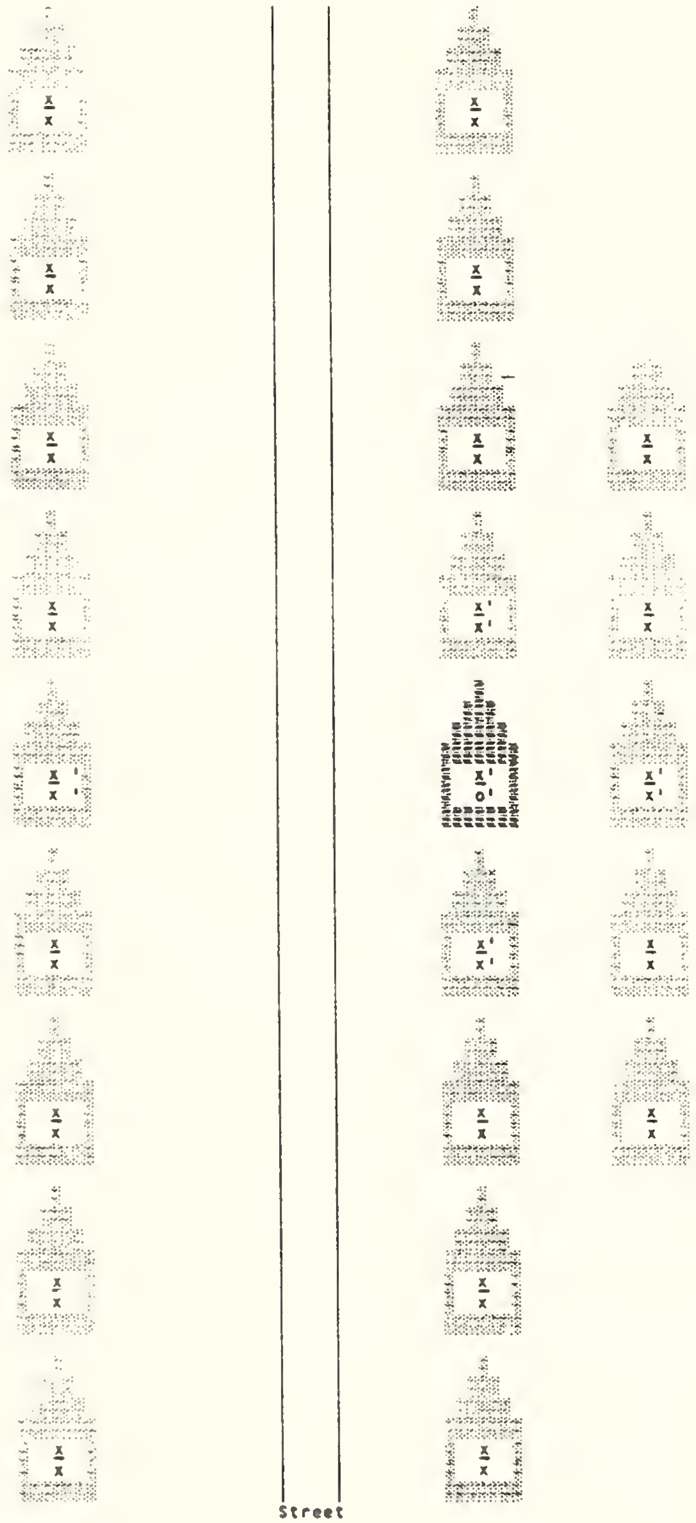
A profile of the case study projects required the following four concepts: *date of development; basic physical characteristics*; *unit characteristics*; and *location*. Date of construction was measured by the year recorded in the Ministry of Housing files. Basic physical characteristics included the type of project, total number of units, site orientations, building height, size, site area, site coverage and number of off street parking spaces. Unit characteristics included peoples' perceptions, what was the previous use of the site and adjacent land uses.

Property values within the entire zone of influence was determined by referring to actual sales records from 1980 - 1986 in the TEELA data base. They were classified as pre-development or post-development thus permitting a comparison with perceptions of the effect of non-profit housing on property values and the objective values of property. (Sales data were also collected for dwellings within the zone of influence of a matched control group.)

The third issue area involved identifying the perceptions of neighbours toward various forms of non-profit housing projects, especially the particular case study project involved. First of all, we developed a profile of the characteristics of each group. This allowed us to compare across groups and to identify factors which may influence perceptions. The profile of neighbourhoods required the following concepts: *socio-demographic characteristics; household characteristics; influence of non-profit housing on buying decision; perception of non-profit housing activity; and perceptions of pre-development neighbourhood.*

Socio-demographic characteristics of neighbours include education, occupation and household income. Household characteristics include previous and current tenure (own/rent), length of tenure, type of dwelling and household and the number of residents. The length of residency in the neighbourhood was also captured. If the resident has moved to the area since the development, the influence of the project in level of buying decision was identified.

EXHIBIT 2.1
Defined Zone of Influence



Key: o Case study

$\frac{x^1}{x^1}$ Structure in primary zone

$\frac{x}{x}$ Structure in secondary zone

The identification of concerns and priorities was a pivotal point in the study and involved a number of key concepts including *perception of quality of neighbourhood with the projects and perceived impact of non-profit housing on property values.* Perception of quality of neighbourhood with non-profit housing included the same elements as perceptions without non-profit housing to permit pre/post development comparisons (availability of parking, level of street traffic, level of visual privacy, level of noise, appearance, socializing and overall satisfaction). Perceived impact on homeowner property values was a self-reported measure to compare to the actual change in property values with non-profit housing, as determined by the TEELA data.

The last issue concerned *acceptance of non-profit housing* in general. Acceptance of non-profit housing included an unwillingness/willingness to accept non-profit housing and involvement in the public consultation process.

3.0 RESEARCH METHODOLOGY

This chapter outlines the detailed data requirements and data collection procedures used in the study. Exhibit 3.1 presents the specific types of information used to measure the research concepts discussed in the previous chapter. Also indicated are the sources of data for each of the research concepts.

EXHIBIT 3.1
Detailed Data Requirements by Source

ISSUE/QUESTION AREA	CONCEPT/INDICATOR	DATA SOURCE
1) Profile of Neighbourhood		
Socio-demographic characteristics	o mother tongue o household income o education	o survey of neighbours
Household characteristics	o type of tenure o number of occupied private dwellings o number of family/non-family households o average number of persons per private household o average length of tenure o type of dwelling	o survey of neighbours o visual inspection
Time of sale	o pre or post project (or matched date for control group)	o MOH Data
Zone of influence	o proximity/similarity	o visual inspection
2) Profile of Case Study Site		
Date of non-profit housing development	o recorded year	o MOH Data
Basic physical characteristics	o type of project o total number of units	o MOH Data

ISSUE/QUESTION AREA	CONCEPT/INDICATOR	DATA SOURCE
3) Property Values		
Pre-development property values	o Actual sales data for control and treatment groups	o TEELA
Post-development property values	o Actual sales data for control and treatment groups	o TEELA
Changes in Property Values	o Actual Sales data for control and treatment groups o Absolute changes for sales data for control and treatment groups o rates of change in property values for control and treatment group	o TEELA
4) Profile of Neighbours		
Socio-demographic characteristics	o education o occupation o mother tongue o household income	o survey of neighbours
Household characteristics	o type of tenure o type of household o year moved into neighbourhood	o survey of neighbours
Zone of influence	o zone reside in	o visual inspection
Perception of non-profit housing activity	o source of awareness o preferred source of awareness	o survey of neighbours
Influence of non-profit housing in buying decision	o amount of influence non-profit housing activity had on buying decision	o survey of neighbours

ISSUE/QUESTION AREA	CONCEPT/INDICATOR	DATA SOURCE
5) Concerns/priorities		
Perception of quality of neighbourhood with non-profit housing	o perceived availability of parking o perceived level of street traffic o perceived level of noise o perceived physical appearance of neighbourhood o perceived level of visual privacy o amount of socialising o overall of satisfaction with the neighbourhood	o survey of neighbours
Perceived impact on homeowner property values	o perceived effect on non-profit housing on property values	o survey of neighbours
6) Acceptance/Preferences		
Acceptance of non-profit housing projects	o willingness/unwillingness to accept a minimum level of non-profit housing projects	o survey of neighbours

3.1 Quasi-Experimental Design

The central study question is: "Did the introduction of non-profit housing have an effect on property values of surrounding properties, if so, how much and in what direction?" In order to measure these effects, a non-equivalent control group quasi-experimental design was used. This involved the judicious selection of a set of control properties against which to compare the findings obtained from the treatment properties. The treatment was defined as exposure to a non-profit housing project. The control property is defined as a property with the following criteria:

- at least ten houses away from the non-profit project;
- similar building structure;
- similar size;
- similar physical condition;

- o not a non-profit project unit (nor any non-profit projects within ten houses on either side, in front of or behind properties); and
- o located in the same neighbourhood.

Exhibit 3.2 presents our design Our observations (as denoted by O's in our design) are the sales data from dwelling units identified within the zones of influence. The sales data range between 1980 and 1988. The treatment group contains those properties in the defined zone of influence of a non-profit housing project, which have been sold during the period 1980 to 1988.

The treatment (as denoted X in our design), or exposure may have occurred between late 1981 and 1986. All sales data previous to the year the project was developed will be included in the pre-development cell, while all sales data in the year subsequent to the development date will be included in the post-development cell. This is an important point to remember as treatments are usually fixed in time and constant for all observations. Our treatment varies by observation.

In the strictest sense, the approach was not quite a quasi-experimental design, but for all practical purposes it is close enough. More precisely, the design *was ex post facto* since it approximated an experimental design from past, naturally occurring events. An important point to remember is that the focus of the research is on the effect of non-profit housing on surrounding property values. Surrounding property values are viewed as attributes of the original sample of treatment and control properties.

EXHIBIT 3.2
Quasi-Experimental Design

	PRE		POST
Treatment (Non-Profit Housing)	0^{1}	X	0^{2}
Control (Absence of Non-Profit Housing)	0^{3}	X	0^{4}

Legend: O = Observation on Sales Data
X = Exposure to Non-Profit Housing

3.2 Sample Selection

The population for this study was the universe of non-profit housing projects developed between late 1981 and 1986 in the cities of Metropolitan Toronto, Ottawa and North Bay. The population was further restricted to projects in primarily residential neighbourhoods and excluded large homogeneous neighbourhood developments, flagship developments, rehabilitation developments, group homes, transitional housing and included only minimal special needs housing.

The target analysis sample was originally set at 67 - 40 in Toronto, 20 in Ottawa and seven in North Bay. Given these numbers, the number of expected neighbourhood perception survey returns was estimated at just over 500.

The sampling frame for the study was a list of non-profit housing projects in Toronto, Ottawa and North Bay provided by the Ministry of Housing. The sample was reviewed by RHPO officials to assist in the selection of projects that met with the criteria.

All projects listed in Metropolitan Toronto and North Bay, as well as all of the projects considered viable by the regional office in Ottawa for the Ottawa area, were investigated through on site visits to establish the feasibility of each project individually. In each, the project was identified and the availability and types of dwellings surrounding the project were assessed, as well as the existence of other non-profit projects in the area. If a project was considered to be viable preliminary work was done to assess the possibility of finding a suitable control in the neighbourhood. In all, 114 projects were assessed in this way to achieve field work for 51 projects. Exhibit 3.3 shows the sample distribution. Appendix A presents a list of the projects included in the final sample.

EXHIBIT 3.3
Sampled Non-Profit Housing Projects by City and Year

Year	Ottawa	Toronto	North Bay	Total	Percentage
1981	1	4	0	5	9.8
1982	4	11	4	19	37.3
1983	4	4	0	8	15.7
1984	2	2	0	4	7.8
1985	2	7	2	11	21.6
1986	1	2	0	3	5.9
1987	1	0	0	1	1.9
Totals	15	30	6	51	100.0

Source: Survey of Neighborhoods 1988, n = 2387.

At each site photographs were taken of the project and the surrounding area was mapped out delineating addresses, structures and zones of influence. Each address was rated on three items of physical condition; the overall structural condition of the dwelling, the need for repairs and the overall condition of the lot surrounding the dwelling. All questionnaires were given unique identifying numbers in order to link the position of the survey respondents' dwelling to its position in the zones of influence in either the treatment or control group of the project areas under study. Once questionnaires were dropped off, the project team identified a suitable control and followed the same procedures as in the treatment group..

Due to a variety of factors, the targeted number of overall projects was not achieved. The nature of the stock of non-profit housing projects in the three selected cities and the criteria for inclusion in the sample served to disqualify many of the existing projects, leaving only 30 projects in Toronto, 15 in Ottawa and six in North Bay suited for analysis. *All* qualifying projects were included in the sample. To compensate for the lower number of projects suitable for the study, the zones of influence, as well as the number of questionnaires dropped off, were increased. Consequently, the sample size approaches that which was discussed in our original design for both the treatment and control units.

A final completed sample of 1,147 treatment units and 1,138 control units were obtained. This resulted in the identification of an average of 22.5 dwelling units per project within the treatment zones of influence and an average of 22.3 dwelling units per control within the control zones of influence.

As mentioned, 114 projects were examined in order to obtain 51 projects that were viable for the field work of this study. One of the problems encountered with projects listed was the close proximity of the project to other existing non-profit developments (i.e., across the street or next door to one another). Many projects (particularly in the City of Toronto) were removed from the sample as the surrounding area was too commercial. Some of the projects that were identified as residential. bordered schools and shopping malls or other structures that were not private dwellings which rendered them inappropriate. A number of projects were large, flagships and some were extremely homogeneous projects isolated from conventional housing stock. Some projects had an insufficient number of dwellings surrounding them to include them in the sample (i.e., the potential was very low for obtaining sales data or survey data). In Toronto, some of the best projects of this type were included in the sample to obtain a minimum number of projects required for the study.

Overall, of the 78 projects listed in the Toronto area, 30 were found to be viable and were included in the final sample. Of these, 24 projects were family residences, four projects were mixed and two were projects accommodating senior citizens projects. In Ottawa, 28 projects were included in the list, of which 15 were viable and could be included in the final sample. These included 14 family and one mixed residences. In North Bay, of the eight projects listed, six were suitable to be included in the final sample. Five of those were family residences and one was a senior citizens residence.

A total of 1,608 questionnaires were distributed during the field work. Forty questionnaires were dropped off in each of the Ottawa and North Bay projects (i.e., 600 and 240 total questionnaires in each of these cities, respectively). It was estimated that 35 projects would be completed in Toronto, however, only 30 were possible given the requirements of the study. Some of the Toronto projects chosen; in fact, did not have the optimal number of zones of influence available to distribute the planned 35 questionnaires to both the treatment and control areas. Thus, the total number of questionnaires distributed in Toronto was 968 (this total is 82 questionnaires lower than planned). The overall total number of questionnaires returned from all three study locations was 381.

4.0 ECONOMIC ANALYSIS OF THE IMPACTS OF NON-PROFIT HOUSING ON PROPERTY VALUES

The main study issue was the effect of non-profit housing on adjacent and nearby property values. To determine if non-profit housing has influenced property values, the study employed the non-equivalent control group, quasi-experimental design described in the previous chapter. This chapter describes the findings obtained from the design.

4.1 Comparison of Treatment and Control Units and Their Neighbourhoods

Before discussing the impact findings, this section briefly considers the characteristics of the treatment and control groups and their surrounding neighbourhoods.

In choosing the control, the project team moved a minimum of ten building structures from the sampled project. In many cases, however, control units were found as far away as several blocks from the project in order that the control unit and the surrounding neighbourhood were matched as closely as possible. The utmost attention was paid to finding a control in the same neighbourhood, which had the same or similar dwellings around it. The control unit was matched in size, shape and age as closely as possible in most cases. In a few, however, the match of the control unit itself to that of the project was sacrificed in order to meet the matching criteria of the surrounding dwellings within the same neighbourhood.

Data comparing the treatment and control units based on the matching criteria are shown in Exhibit 4.1. As can be seen, although more emphasis was placed in matching the neighborhoods, on average, the control unit matches the treatment unit moderately well for all three criteria. Moreover, in terms of overall comparability, the photographs of each unit illustrate that the unit were matched very well. Finally, as seen in Exhibits 4.2 through 4.5, differences in the adjacent properties and surrounding neighbourhoods (based on type of structure, need for repairs and condition of dwellings, and lots) of the treatment and control groups are insignificant.

EXHIBIT 4.1
Mean Comparison Ratings of Treatment and Control Units

Comparison By:	Rating[1] (n = 41) [2]
Size	3.9
Age	3.9
Immediate Surrounding Area	4.7

Source: Survey of Neighbourhoods 1988, n = 2387.

[1] Rated on a seven point scale where one means control matches the treatment "not at all well", a 7 means the control matches the treatment "extremely well" and the midpoint four means the control matches treatment "moderately well".

[2] There were ten projects in Toronto for which there were no buildings in the area similar to the treatment unit. In these cases, the control unit was selected on the basis of similarity of the surrounding neighbourhoods and are not included in these comparison ratings.

EXHIBIT 4.2
Type of Structure by Treatment and Control Groups

	Treatment Group (n = 1138) (%)	Control Group (n = 1154) (%)
Single house	37.9	43.9
Semi-detached	29.6	31.6
Duplex	3.8	4.9
Row house	21.7	12.0
Converted	3.2	5.5
Low-rise apartment	1.6	1.0
High-rise apartment	0.4	0.7
Commercial	1.8	0.4
Total	100.0	100.0

$x^2 = 59.91$ $p<.001$

Source: Survey of Neighbourhoods 1988, n = 2387.

EXHIBIT 4.3
Need for Repairs
By Treatment and Control Groups

	Treatment Group (n = 1017) (%)	Control Group (n = 1049) (%)
Major repairs	4.3	3.0
Minor repairs	20.7	22.2
Regular Maintenance	75.0	74.8
Total	100.0	100.0

$x^2 = 0.66$ $p = 0.719$

Source: Survey of Neighbourhoods 1988, n = 2387.

EXHIBIT 4.4
Overall Condition of Dwelling
By Treatment and Control Group

	Treatment Group (n = 1018) (%)	Control Group (n = 1049) (%)
Top condition	81.0	79.7
Minor attention required	11.1	11.6
Major attention required	7.9	8.7
Total	100.0	100.0

$x^2 = 2.85$ $p = 0.240$

Source: Survey of Neighbourhoods 1988, n = 2387.

EXHIBIT 4.5
General Condition of Lot By Treatment and Control Group

	Treatment Group (n = 1018 (%)	Control Group (n = 1049) (%)
Superior	83.2	81.6
Moderate	8.4	10.7
Terrible	8.4	7.7
Total	100.0	100.0

$x^2 = 3.09$ $p = 0.213$

Source: Survey of Neighbourhoods 1988, n = 2387.

The degree to which the comparison group of matched properties is similar to the treatment group is crucial. The experimental ideal is for identical characteristics except for the presence or absence of, in this case, the non-profit housing project. In this way, observed differences can be attributed to the effects of the treatment. Random assignment ensures this equivalence in a true experimental design. A controlled matching process (including a quasi-random algorithm) was used to generate the quasi-control comparison group. The closer the "control" group resembles the treatment group the better the design. As the following evidence clearly demonstrates, the treatment and quasi-control groups are nearly identical in most important respects. In fact, there are no statistically significant differences in the composition of the groups, reinforcing the notion that effects are due to the exposure to non-profit housing.

Consequently, even given the problems encountered in the matching process, the selection of the control units vis-à-vis the treatment units is believed to be very similar and appropriate for the design.

4.2 Impact on Property Values

The approach assesses the impacts of non-profit housing on property values. This involved comparing sales data from properties surrounding the non-profit housing project (the treatment groups) to sales data, for properties surrounding a similar, but not non-profit dwelling (control group) for the same time periods. The sales data for these comparisons ranged from 1980 to 1988. Before calculating the statistical tests, the sales data were calibrated into constant 1981 dollars according to the Housing Price Index. Standardising the sales data provided an accurate, relative measure of the impact of non-profit housing on the sale price in the pre and post development groups.

Once the data were calibrated to constant dollars, frequency distributions for all sales data were examined to detect any outliers in the sample. Outliers refers to the cases for which the value or score is substantially higher or lower than the rest of the cases. They are a concern because given a relatively small sample, such extreme scores will artificially distort the average. Since outliers are not representative of the population, they should not be considered in the sample. For example, the original sample included several $1.00 house sales. If these sales were included in the analysis, the mean sales figures would have been distorted downwards. For the purpose of this study, all sales of $10,000 or less and $200,000 or more were removed from the sample. Recall that sales of over $200,000 in 1981 dollars are well over $300,000 in current dollars. Most of the upper outliers were in fact *much* higher than this figure. When we consider the neighbourhoods we were examining, sales of several hundred thousand dollars were several times the mean sales value and hence we dropped these cases. If the reader disagrees with our judgement there is no difficulty in drawing their own conclusions since we will present the data both with and without the upper outliers (see Chapter Six). The lower outliers are purged from all analysis since they are clearly inappropriate for the test.[1] This process ensured a more representative sample and as the reader shall see, the inclusion or exclusion of upper outliers has no significant impact on our main conclusions.

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[1] If they are included no statistical test changes.

To test for statistical significance, all analyses used the analysis of variance (ANOVA) method. ANOVA was used to test if groups of properties differed in their overall sample mean for a specific measure. For example, one may wish to determine whether different housing markets vary significantly in their increase (or decrease) in property values. The null hypothesis is this:

$$\mu_1 = \mu_2 = \mu_3 = \ldots = \mu_x$$

This states that there is no difference between the mean property value changes for any market. This hypothesis is tested by decomposing the variance into two sources -- the within-groups variance and the between-groups variance. The ratio for the two variance estimates is known as the F-test. The procedures of analysis of variance can apply to any number of groups and can be used to assess the effects of two or more independent variables (e.g., treatment group versus control group and housing market). In this case the between-group variance is partitioned into three components -- the treatment versus control effects, market effects, and the treatment versus control by market interactions. Each of these effects can be tested using the F-ratio. That is, the F-ratio tests the probability that the difference in pre- and post-development property values are a product of chance and not the effect of the non-profit housing project.

Overall, the sample identified 49.2 per cent of properties whose sales were between $10,000 and $200,000 associated with the four cells of the design. For the treatment group, there were 122 sales before the development of the non-profit housing project and 149 sales after. For the control group there were 117 sales prior to the development and 104 sales after.

The first noticeable finding is the level of resale activity. For the treatment group, sales activity rose from 122 in the pre-development period to 149 in the post-development period -- an increase of 22 per cent. For the control group, pre-period sales activity was similar to the treatment group (117) but *decreased* to 104 -- a decrease of 11 per cent in sales activity. The chi-square (x^2) test of independence reveals that this change in sales activity is statistically significant ($p < .001$) and suggests that there is significantly greater levels of sales activity in neighbourhoods exposed to non-profit housing.[1]

This finding may suggest that people are moving out of neighbourhoods in close proximity to non-profit housing (i.e., treatment neighbourhoods) because of exposure to non-profit housing. However, left on its own, it should not be interpreted as conclusive. There are a multitude of exogenous factors which might influence increases in sales activity. Essentially, these findings should serve to complement the property value impacts and neighbourhood perception findings.

Exhibit 4.6 presents the average selling price by observation. For all groups, the average increase in property values was only $293 (or 0.5 per cent). Property values within the sample of treatment properties rose an average of $877 (or 1.3 per cent) compared to an average decrease of $705 (-1.0 per cent) in the control neighbourhoods, for a difference of 2.3 per cent. Thus, while overall, properties increased in value between pre and post development periods, those properties in the treatment groups showed a slight increase in value on average than those in the control groups and the properties in the control groups showed a slight decrease. This difference, however, is not statistically significant.

A critical component of this study was to identify the properties which have the potential to be affected by the introduction of non-profit housing. The question posed here was: "How close to a non-profit housing project must another dwelling be in order for its value to be influenced by the project?" In order to capture data to analyze this question, both the treatment and control group case study dwellings were assigned a proximity indicator that placed the dwelling into "primary" (properties

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[1] Formula x^2:

$$(c-1\ d.f.) = \sum \overset{c}{\underset{i-1}{E}} \frac{(0-E)^2}{E}$$

Where ^{0} = observed cell frequencies
^{E} = expected cell frequencies
^{c} = number of cells

adjacent to the project) and "secondary" (properties up to one block away from the project, but not in the primary zone) zones. It was hypothesized that the impact of non-profit housing projects on property values in the treatment area might vary depending on proximity factors (i.e., that impact would be strongest in the "primary zone"). Unfortunately, while those data suggest that there are directional differences in changes in property values between the primary and secondary zones of influence among markets, the data are not statistically significant. Hence, no conclusions can be drawn from the inter-market variations in pre and post property values between the two zones of influence.

EXHIBIT 4.6
Average Selling Price by Observation

	Pre Development	Post Development
Treatment Group	$\bar{X}_1 = \$65,786$ $S_1 = \$30,710$ $n = 122$	$\bar{X}_2 = \$66,663$ $S_2 = \$29,981$ $n = 149$
Control Group	$\bar{X}_3 = \$64,936$ $S_3 = \$26,329$ $n = 117$	$\bar{X}_4 = \$64,231$ $S_4 = \$25,560$ $n = 104$
Overall	$\bar{X}_1 = \$65,370$ $S_1 = \$28,593$ $n = 239$	$\bar{X}_2 = \$65,663$ $S_2 = \$35,309$ $n = 253$

	Differences in Selling Price		Analysis of Variance	
			F	p
Treatment	$877 increase	(1.3 per cent)		
Control	$705 increase	(-1.0 per cent)		
Overall	$293 increase	(0.5 per cent)	0.067	0.796

$\bar{X}$ = average selling price
S = standard deviation in selling price
n = number of properties sold during observations

Source: Survey of neighbourhoods 1988, n = 2387.

Exhibit 4.7 presents the average pre and post development selling price of properties in treatment and control groups by city. As can be seen, while there has been an overall increase in property values in Ottawa, the properties in the non-profit housing project treatment neighbourhoods have, on average, increased to a greater extent than the properties in control neighbourhoods. For instance, treatment group property values rose an average of $8,883 (14.0 per cent) compared to $5,807 (9.0 per cent) for properties in the control neighbourhoods. This represents an average difference of 5.0 per cent.

In Metro Toronto, property values did not change as dramatically as those in Ottawa. Property values in the treatment neighbourhoods in Toronto fell by $1,410 (-1.9 per cent) while property values in control neighbourhoods fell by only $11 (-0.02 per cent) for an average difference of 1.88 per cent.

Property values in the North Bay housing market increased slightly in both the treatment and control neighbourhoods. For example, property values of homes in non-profit housing project neighbourhoods rose an average of $1,845 (4.5 per cent) compared to an average increase of $1,066 (2.5 per cent) in the control neighbourhood. This is, on average, a difference of 2.0 per cent.

As the data suggest, property values in the treatment groups change to a greater extent than property values in the control groups in all three cities. There are no substantively significant differences in the changes in Toronto and North Bay. However, in Ottawa, there is a 5.0 per cent difference in the increases in property values in favour of the homes surrounding the non-profit housing project. This finding suggests that non-profit housing does have an impact on property values in Ottawa, and ironically, this impact is a positive one. Unfortunately, these data are also not statistically significant.

EXHIBIT 4.7
Average Selling Price by City and Observation

Ottawa	**Pre Development**	**Post Development**
Treatment Group	$\bar{X}_1 = \$63{,}573$ $S = \$26{,}558$ $n = 36$	$\bar{X}_2 = \$72{,}456$ $S = \$24{,}183$ $n = 46$
Control Group	$\bar{X}_3 = \$64{,}780$ $S = \$31{,}533$ $n = 35$	$\bar{X}_4 = \$70{,}587$ $S = \$25{,}296$ $n = 36$
Toronto		
Treatment Group	$\bar{X}_1 = \$74{,}925$ $S = \$31{,}960$ $n = 65$	$\bar{X}_2 = \$73{,}515$ $S = \$33{,}568$ $n = 71$
Control Group	$X_3 = \$72{,}254$ $S = \$21{,}865$ $n = 62$	$X_4 = \$72{,}243$ $S = \$24{,}510$ $n = 41$
North Bay		
Treatment Group	$\bar{X}_1 = \$41{,}290$ $S = \$17{,}105$ $n = 21$	$\bar{X}_2 = \$43{,}135$ $S = \$13{,}007$ $n = 32$
Control Group	$\bar{X}_3 = \$42{,}523$ $S = \$14{,}653$ $n = 20$	$\bar{X}_4 = \$43{,}589$ $S = \$14{,}249$ $n = 27$

	Differences in Selling Price		**Analysis of Variance**	
			F	**p**
Ottawa				
Treatment Group	\$8,883 increase	(14.0 per cent)		
Control Group	\$5,807 increase	(9.0 per cent)	0.268	0.605
Toronto				
Treatment Group	\$1,410 decrease	(-1.9 per cent)		
Control Group	\$11 decrease	(-0.02 per cent)	1.652	0.200
North Bay				
Treatment Group	\$1,845 increase	(4.5 per cent)		
Control Group	\$1,066 increase	(2.5 per cent)	0.051	0.823

$\bar{X}$ = average selling price
S = standard deviation in selling price
n = number of properties sold during observations

Source: Survey of neighbourhoods 1988, n = 2387.

Exhibit 4.8 presents the analysis of variance of pre and post development sales and interactive effects of time, treatment groups and market area on property values. As can be seen, the combination of time, treatment groups and market area does not have any significant effect on property values. In other words, not only does each variable have no significant individual impact on property values, the combination of these three variables has no significant influence on property values.

EXHIBIT 4.8
Analysis of Variance of Pre and Post Development Sales of Properties Between S100,000 and $200,000

Source of Variation	F	DF	Significance of F
Main Effects	25.230	4	0.0
TIME	0.92	11	0.338
TREATCON	0.131	1	0.717
CITY	50.209	2	0.0
2-way Interactions	0.503	5	0.774
TIME TREATCON	0.009	1	0.923
TIME CITY	1.178	2	0.309
TREATCON CITY	0.117	2	0.890
3-way Interactions	0.085	2	0.919
TIME TREATCON CITY	0.085	2	0.919
Explained	9.419	11	0.0
Residual		480	

(n = 492)

Source: Survey of Neighbourhoods 1988, n = 2387.

An important consideration is the variable nature of the data as evidenced in the high standard deviations for both the treatment group and the control group, pre and post development. This factor, in combination with the small number of sales involved, means the hypothesis that these differences may be caused by random variation in the population cannot be rejected. That is, the difference may be a product of chance and not the effect of the non-profit housing project.

Moreover, several previous studies also concluded that non-profit housing has no significant impact on surrounding property values. In fact, in several cases, the results of these studies showed a substantively positive impact on property values surrounding the non-profit housing project[1].

In summary, the findings indicate that non-profit housing does not have an impact on property values. While the data suggest that the property values in non-profit housing neighbourhoods have increased on average about $3,300 more than those in the control neighbourhoods in terms of net change over the pre and post periods, this effect cannot be verified as statistically significant.

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[1] See in particular: Hugh Nourse, "The Effect of Public Housing on Property Values in Saint Louis" (1963); William Rabiega, Ta-Win Lin, and Linda Robinson, "The Property Value Impacts of Public Housing Projects in Low and Moderate Density Residential Neighbourhoods" (1984); Joseph DeSalvo, "Neighbourhood Upgrading Effects of Middle Income Housing Projects in New York City" (1974); and Stephen Farber, "Market Segmentation and the Effects of Group Homes for the Handicapped on Residential Property Values," (1986).

5.0 PUBLIC PERCEPTIONS

One of the key study issues was to determine residents' perceptions about non-profit housing and the impacts on their neighbourhood. To obtain this information, a drop-off mailback questionnaire was administered to all treatment and control cases (i.e., residents living within the zones of influence of the treatment and control groups). The survey was intended to capture perceptual evidence concerning a number of dimensions including: (i) satisfaction with the neighbourhood; (ii) acceptance of non-profit housing; (iii) the factors which influence the acceptance of non-profit housing; (iv) the perceived impacts of non-profit housing; and (v) satisfaction with the public consultation process. This chapter discusses each of these issues in turn, and only the results which are statistically or substantially significant are reported.

5.1 Neighbourhood Satisfaction

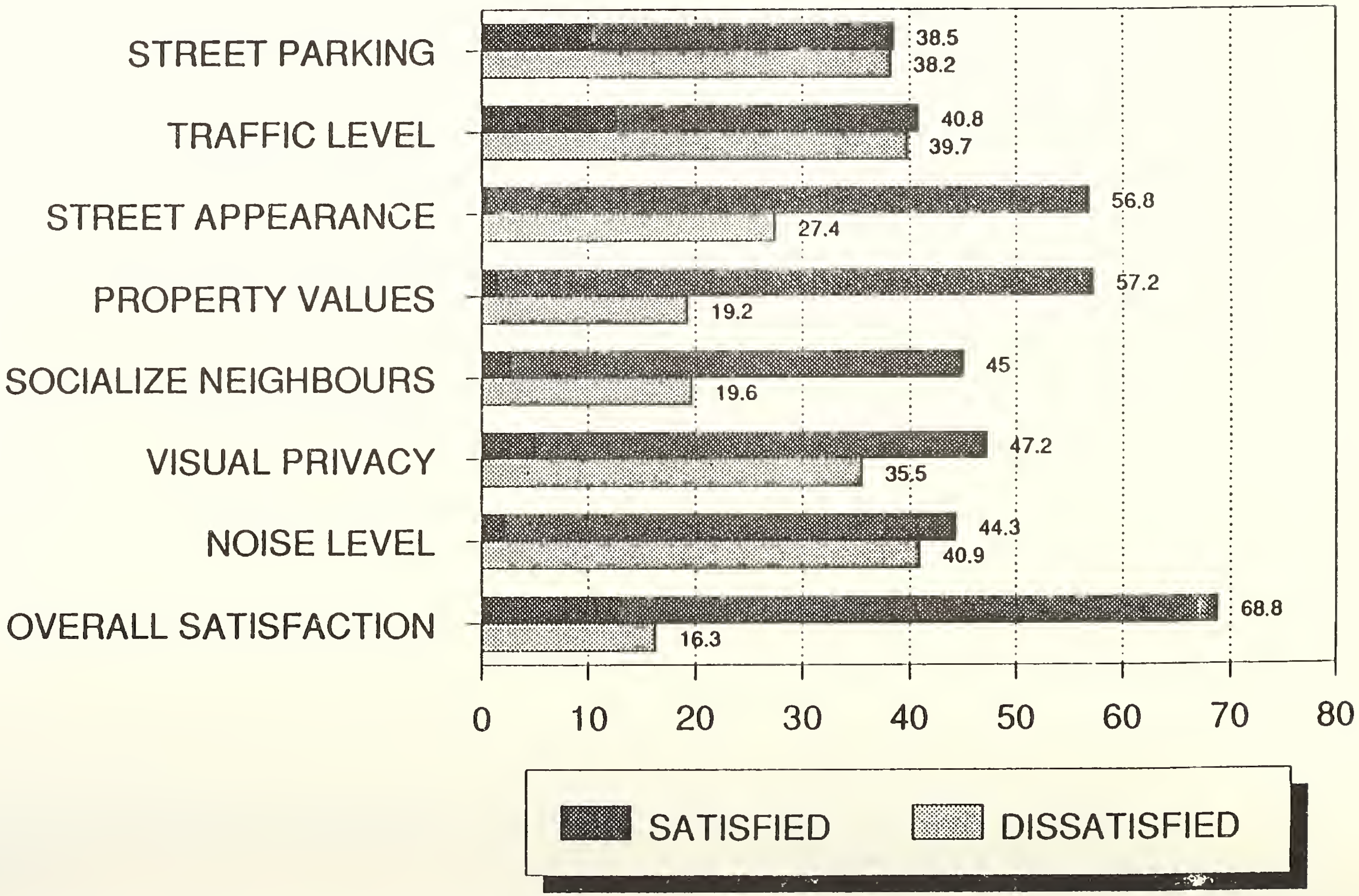
In order to understand residents' perceptions of their neighbourhood, residents were asked to rate their satisfaction with their neighbourhood's quality in the following items:

(i) parking;
(ii) traffic;
(iii) physical appearance of neighbourhood;
(iv) property values;
(v) amount of socializing in neighbourhood;
(vi) amount of visual privacy;
(vii) level of noise; and
(viii) overall satisfaction.

As can be seen in Exhibit 5.1, for all characteristics, the percentage of residents who are satisfied with their neighbourhood on the above items is higher than those who are dissatisfied. In general, the lowest levels of satisfaction are with the availability of street parking, where 38.2 per cent reported dissatisfaction compared to only 38.5 per cent who are satisfied. The level of street traffic was also reported to

EXHIBIT 5.1

Percentage of Respondents Satisfied with Neighbourhood Characteristics



Source: Survey of Neighbours 1988, n=381

have a lower satisfaction level. On average, 40.8 per cent of the respondents are satisfied with the level of street traffic, whereas 39.7 per cent are dissatisfied. A higher proportion of respondents reported dissatisfaction with the level of street noise (40.9 per cent) than with all other factors.

The highest levels of satisfaction among residents are with the physical appearance of the street and the property values in the neighbourhood, where 56.8 per cent and 57.2 per cent respectively reported satisfaction.

It is important to note that the ratings for neighbourhood characteristics are highly correlated with each other. That is, if respondents rated one neighbourhood characteristic as satisfactory, they were likely to be satisfied with other characteristics of their neighbourhood. This finding suggests that satisfaction with one or more factors is highly influential in determining overall satisfaction.

Comparing the average satisfaction levels of residents living in the project's treatment zones with those living in control zones produces a non-reactive test of perceptions. Given that the purpose of the test is not transparent, respondents cannot consciously bias the results.

Overall, there were substantively significant differences between the control and treatment groups, however, statistical measures suggest that only the differences in satisfaction with the availability of parking, the level of street noise and overall satisfaction are significant. Exhibit 5.2 shows the relationship of these factors for the treatment and control groups. As can be seen, there is a noticeable difference in satisfaction levels between the two groups. A higher proportion of residents in the control groups are satisfied with these neighbourhood characteristics than residents in the treatment groups. Only 37.5 per cent of residents in the treatment groups reported satisfaction with the level of street noise, whereas 51.3 per cent of residents in control groups reported satisfaction. There is also a clear difference in the levels of dissatisfaction across treatment and control groups, especially with the overall satisfaction rating, where only 9.1 per cent of control group residents reported overall dissatisfaction versus 23.2 per cent in the treatment group. Given the non-reactive nature of the test, these findings suggest that the presence of non-profit housing units may have an effect on the level of neighbourhood satisfaction and that residents in neighbourhoods with the existence of non-profit housing tend to be somewhat more dissatisfied with their neighbourhood. When this dissatisfaction is examined for respondents who reported that they were aware of non-profit housing in their neighbourhood versus those who did not report awareness, there were no statistically nor substantively significant differences. In fact, although not statistically significant, a higher proportion of residents who were aware of non-profit housing in the neighbourhood reported satisfaction with the availability of parking than those who were not aware.

There were no significant differences in satisfaction with neighbourhood characteristics across study locations, with the exception of satisfaction with the level of street traffic and neighbourhood property values. Exhibit 5.3 examines these differences in more detail. As can be seen, 55.6 per cent of North Bay residents reported satisfaction with the level of street traffic, whereas only 32.5 per cent of residents in the Metropolitan Toronto area expressed satisfaction. This finding is not surprising given variables exogenous to this study (i.e., larger cities have a higher volume of traffic). However, it does suggest that the increased level of street traffic which might accompany a non-profit housing project may be a factor influencing acceptance.

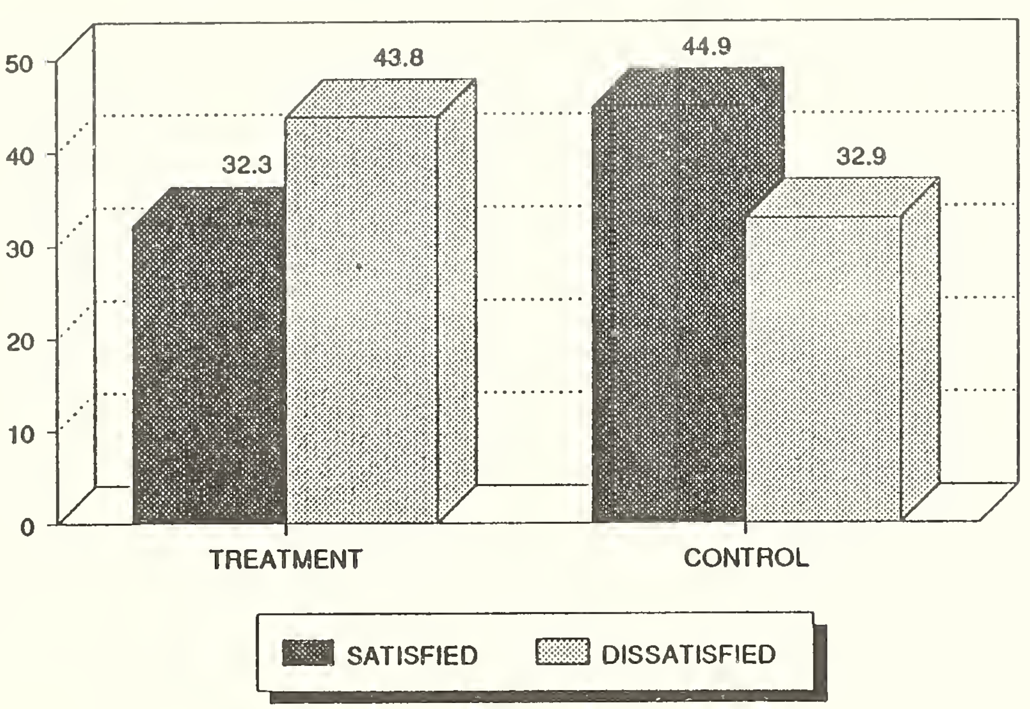
Overall, almost 60.0 per cent of the respondents were satisfied with neighbourhood property values, although a substantially higher proportion of North Bay residents reported satisfaction than did Ottawa respondents (71.7 per cent and 46.1 per cent respectively). In fact, compared to the other two cities, the percentage of Ottawa residents who are satisfied with property values is very low.

This is not surprising considering that, according to the analysis performed in Chapter Four, property values in North Bay rose, on average, over 40 per cent while those in Ottawa only increased, on average, about 15 per cent.

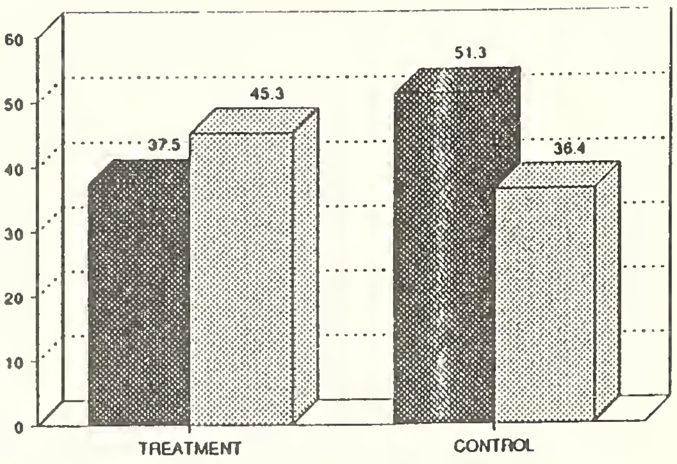
EXHIBIT 5.2

Percentage of Residents Satisfied with Neighbourhood Factors by Treatment and Control Groups

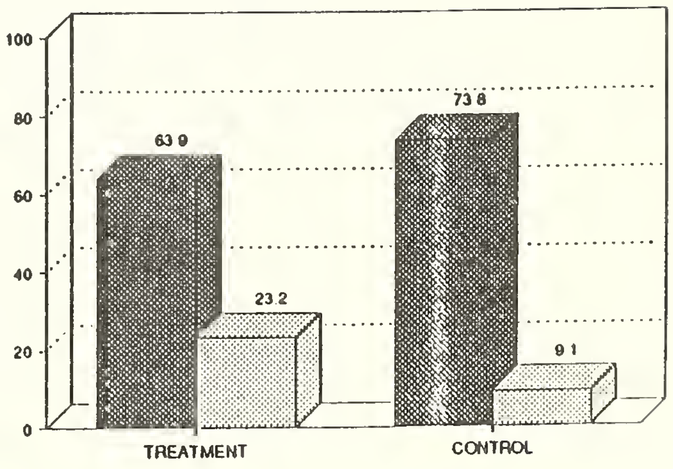
AVAILABILITY OF PARKING



LEVEL OF STREET NOISE



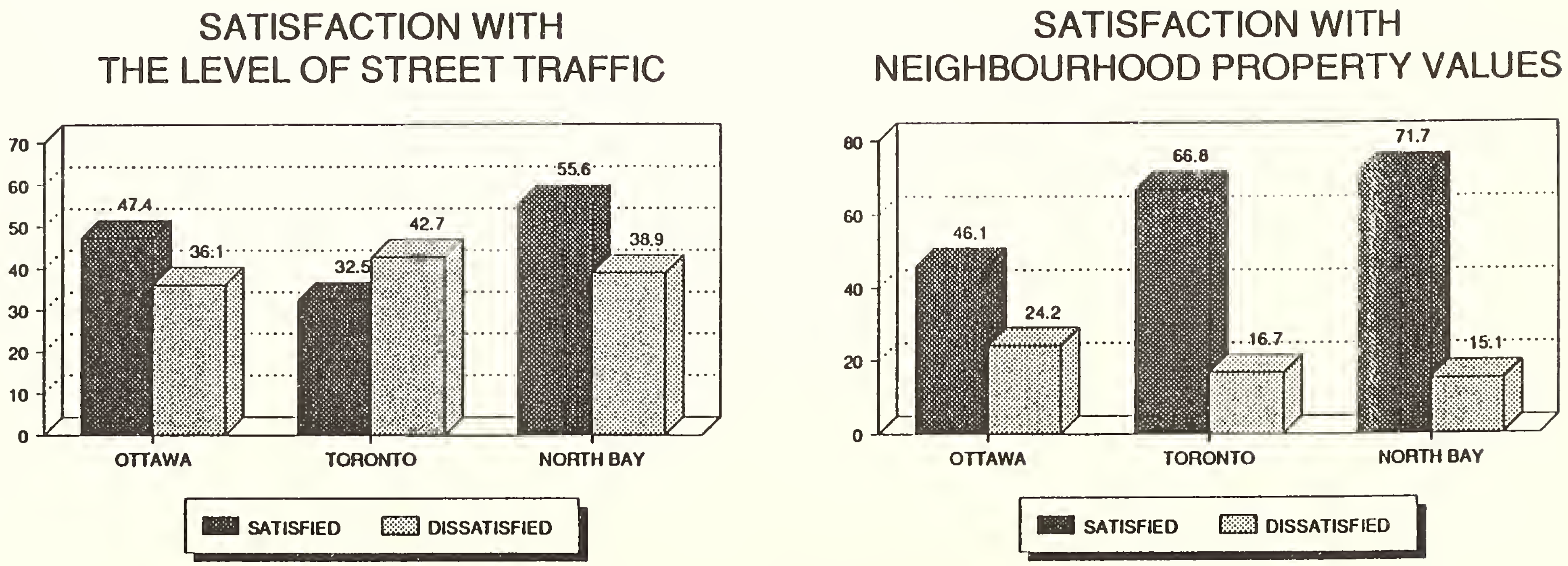
OVERALL SATISFACTION



Source: Survey of Neighbours 1988, n=381

EXHIBIT 5.3

Percentage of Residents Satisfied with
Neighbourhood Characteristics by City



SATISFACTION WITH
THE LEVEL OF STREET TRAFFIC

SATISFACTION WITH
NEIGHBOURHOOD PROPERTY VALUES

Source: Survey of Neighbours 1988, n=381

Finally, there were no substantive or significant differences in satisfaction with neighbourhood characteristics between primary and secondary zones of influence.

Unfortunately, an examination of average market values experienced by respondents of certain perceptions yielded too few cases to be statistically analyzed with any real confidence. Even though, for example, 50 people may be dissatisfied with some aspect of their neighbourhood, when only those whose properties have sold between 1981 and 1988 are considered, the numbers become much smaller. A few interesting observations have been made, however.

Those who were dissatisfied with certain aspects of their neighbourhoods experienced a proportionately larger increase in their property values than those who were satisfied. Residents in the treatment groups who were dissatisfied with the availability of parking and whose homes were sold between 1981 and 1988 (seven residents) showed a 100 per cent increase in property values, whereas those in the same group who were satisfied with parking (seven residents) only experienced a 16 per cent increase. The same type of increased percentages in property values can be seen with residents who were dissatisfied with the noise level and property values in the neighbourhood. Possibly, individuals who perceive themselves as having more to lose have more incentive to protect their investment than those who are not experiencing an increase.

5.2 Perceptions of Non-Profit Housing

This section examines the overall acceptance of non-profit housing. First, general perceptions about non-profit housing are identified. This is followed by an analysis of the factors which might influence the acceptance of non-profit housing.

5.2.1 Acceptance of Non-Profit Housing

Respondents were asked to rate their acceptance of non-profit housing on a variety of levels. First, they rated their acceptance of the general notion of non-profit housing. This was followed by their acceptance of non-profit housing in their city and

Exhibit 5.4 shows these results. As can be seen, the majority of respondents agree that non-profit housing is a good idea and that a need does exist for non-profit housing. Only one-third of the respondents, however, indicated that they would be willing to accept more non-profit housing in their neighbourhood. Of those who are dissatisfied with their neighbourhoods overall, 73 per cent were unwilling to have more non-profit in their neighbourhood (p = .01), although only 40 per cent thought that non-profit was a bad idea in general (p = .09).

There were no statistically or substantively significant differences in the acceptance of non-profit housing between residents in the treatment and control groups. This finding suggests that people living in close proximity to a non-profit housing project are no more or no less likely to have a higher level of acceptance of non-profit housing than people not living in the immediate area of the project, and that exposure to non-profit housing does not increase or decrease acceptance levels.

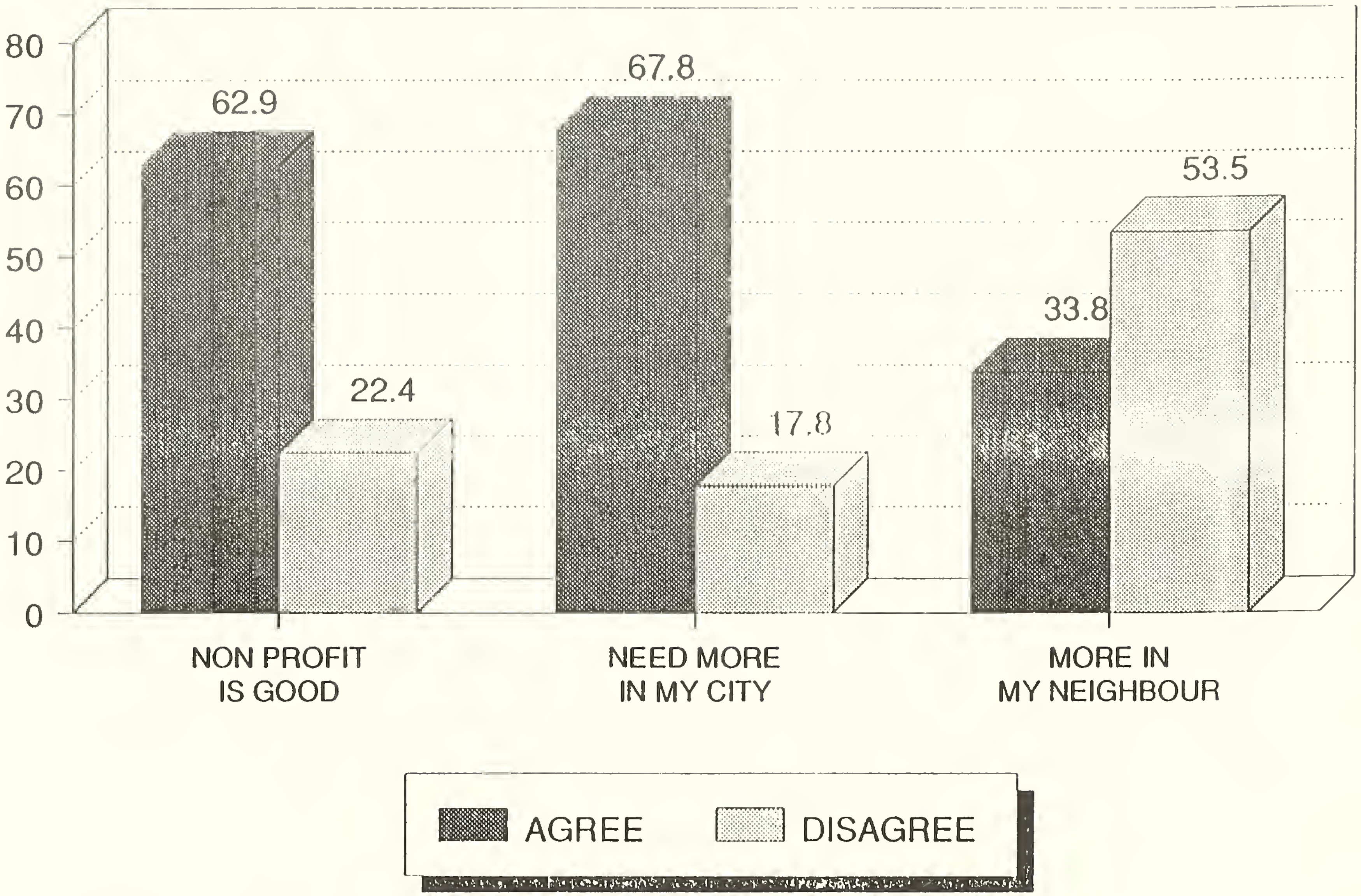
However, respondents who reported that they were aware of non-profit housing in their neighbourhood were somewhat less willing to have more non-profit housing in their neighbourhood than respondents who did not report any awareness.

There were also no statistically significant differences in acceptance across cities, although respondents from North Bay tended to have a lower acceptance of non-profit housing, while respondents from Ottawa were the most accepting. This is interesting since property values in the treatment group increased a greater percentage over time in Ottawa than in either of the other two market areas. There were no differences, however, in levels of acceptance based on satisfaction (or dissatisfaction) with current property values in the neighbourhood.

Moreover, there were no differences in levels of acceptance between respondents residing in the primary and the secondary zones of influence.

EXHIBIT 5.4

Respondents Perceptions of Non-Profit Housing



Source: Survey of Neighbours 1988, n=381

There were considerable significant differences in acceptance levels between homeowners and renters. As can be seen in Exhibit 5.5, homeowners are much less accepting of non-profit housing than are renters. In fact, 73.4 per cent of renters are willing to accept more non-profit housing projects in their neighbourhood, whereas only 22.6 per cent of owners are willing.

Residents in the treatment group who are accepting of non-profit housing in their neighbourhood and show market sales between 1981 and 1988 (11), show an average increase in market sales of 50 per cent, whereas those who are not accepting of non-profit housing in their neighbourhood, show an average decrease in market sales of 20 per cent. Unfortunately, once again, when examining only individuals of particular opinions and who have sold their homes between 1981 and 1988, the number of cases is very small.

These findings suggest a number of things. First of all, non-profit housing is widely accepted, however, acceptance levels decrease with proximity (i.e., in your own neighbourhood). Acceptance levels do not change with exposure to non-profit housing, although awareness of non-profit projects in the immediate area does have a negative effect on acceptance.

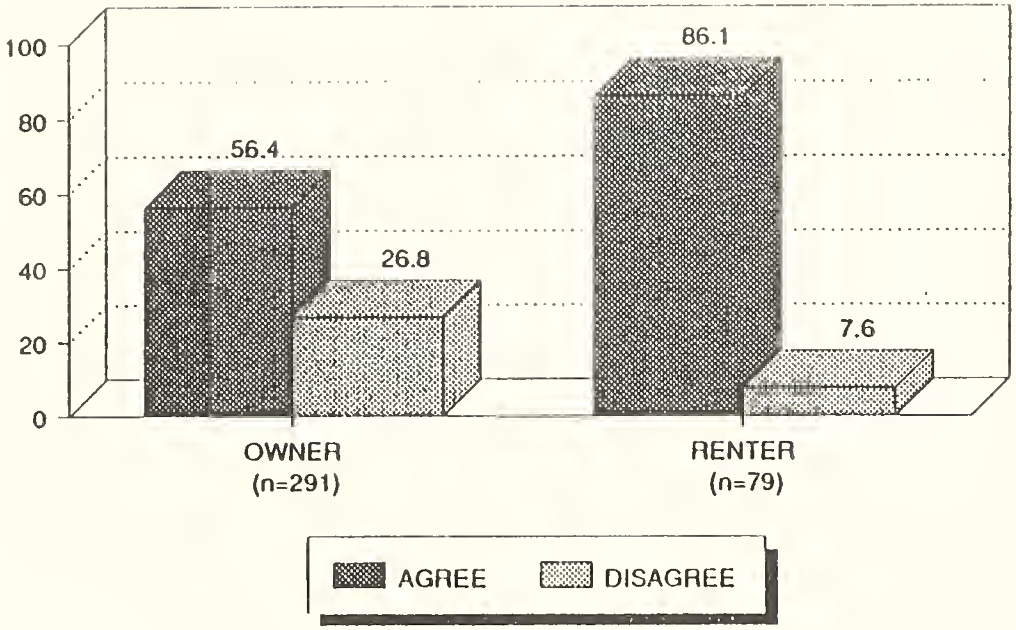
5.2.2 Factors Influencing Acceptance

In order to identify factors which increase or decrease residents' acceptance of non-profit housing, respondents were asked to rate the extent to which a series of factors would increase (or decrease) their acceptance. Exhibit 5.6 displays these findings. As can be seen, about 65 per cent of the respondents cited that respecting the privacy of adjacent lots would increase their acceptance, and almost 60 per cent stated that limiting the number of projects in each neighbourhood would increase their acceptance.

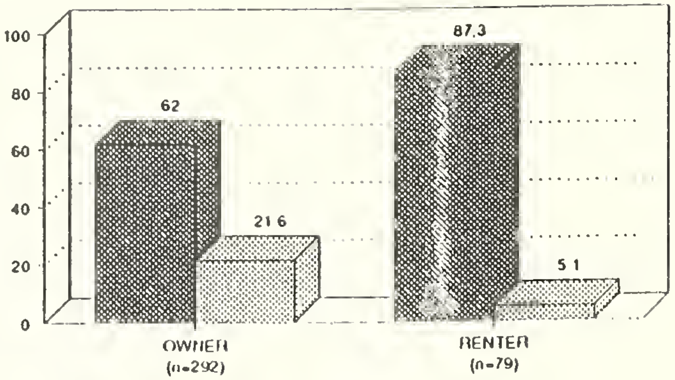
EXHIBIT 5.5

Respondents' Acceptance of Non-Profit Housing by Homeowners and Renters

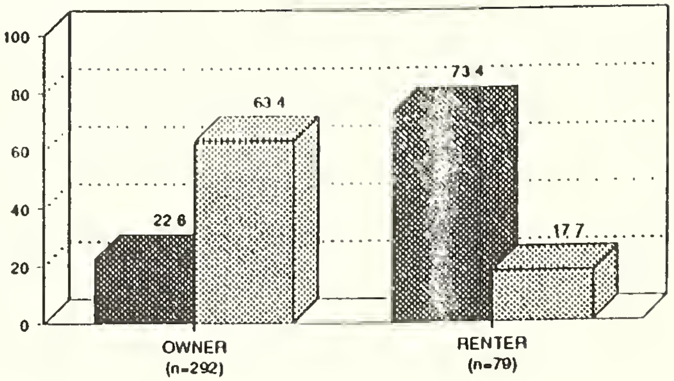
NON PROFIT HOUSING IS A GOOD IDEA



THERE IS A NEED FOR NON-POFIT HOUSING IN MY CITY



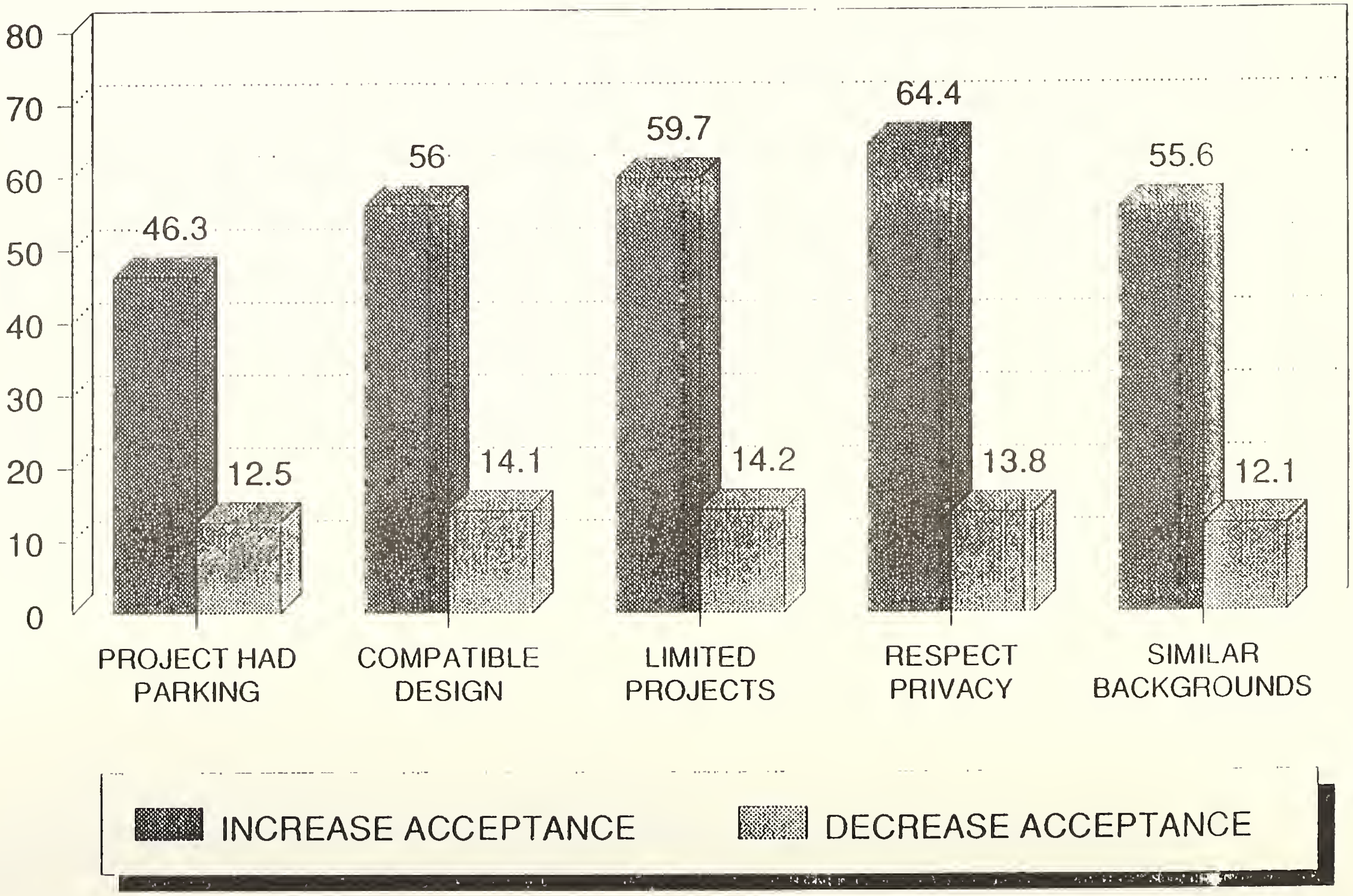
WILLING TO HAVE MORE NON-PROFIT HOUSING



Source: Survey of Neighbours 1988, n=381

EXHIBIT 5.6

Respondents Acceptance of Non-Profit Housing



Source: Survey of Neighbours 1988, n=381

It is interesting to note that while the availability of adequate parking was perceived as the least satisfactory neighbourhood factor (refer to Exhibit 5.1), it is also the factor which would increase acceptance of non-profit housing the least (only 46.3 per cent of respondents stated that it would increase acceptance). This finding suggests that the adequate parking problem is *not* associated with non-profit housing.

Again, there were no statistically nor substantively significant differences in responses from respondents in the treatment and control groups on factors influencing acceptance of non-profit housing, nor between respondents who reported awareness of non-profit housing projects in their neighbourhood versus those who are unaware. There were also no significant findings with the "housing people of similar backgrounds" factor between any groups.

Homeowners are less likely to be positively influenced by these factors than are renters. As can be seen in Exhibit 5.7, with the exception of a limited number of cases in each neighbourhood, over 20 per cent more renters than owners stated that they would be positively influenced by the factors. This finding reaffirms the notion that potential resistance to non-profit will be largely confined to homeowners.

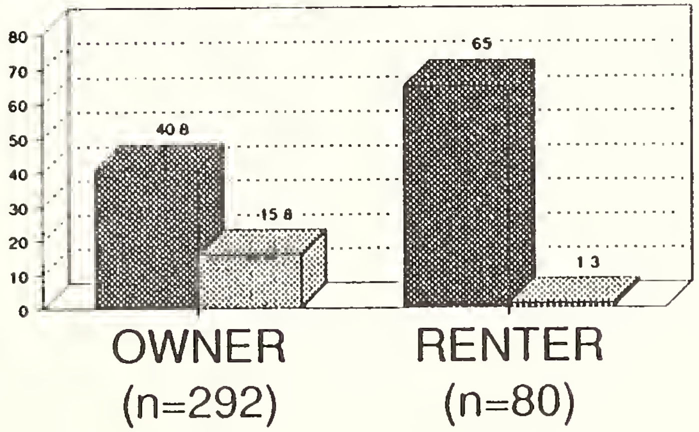
The survey results also suggest that residents of North Bay are less likely to be influenced by those factors, whereas these factors are more likely to have a positive impact on the acceptance of non-profit housing for Ottawa residents.

There was no difference in the likelihood that a resident in a primary zone versus a resident in a secondary zone of influence would be influenced by these factors.

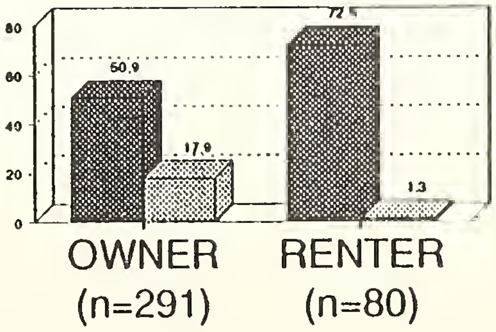
EXHIBIT 5.7

Factors Influencing the Acceptance of Non-Profit Housing by Homeowners and Renters

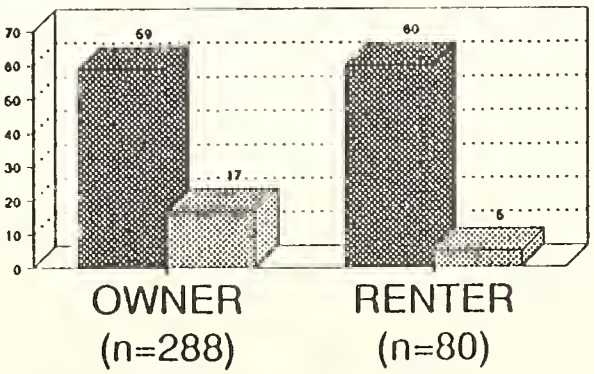
IF THE PROJECT
HAD ADEQUATE PARKING



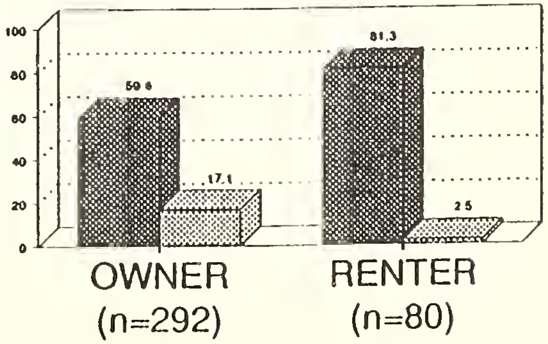
IF THE DESIGN
WAS COMPATIBLE
WITH NEIGHBOURHOOD



IF NUMBER OF
PROJECTS LIMITED



IF DESIGN RESPECTED
PRIVACY



Source: Survey of Neighbours 1988, n=381

5.3 Perceived Impacts of Non-Profit Housing

This section examines the perceived impacts of non-profit housing on property values and the extent to which the presence of non-profit housing affected decisions to purchase dwellings. Exhibit 5.8 presents these results. As can be seen, 61.1 per cent of respondents perceived the impact of non-profit housing on property values to be negative. Moreover, 34.9 per cent of the respondents stated that the presence of non-profit housing had a negative effect on their decisions to purchase their dwellings compared to only 5.7 per cent reporting a positive effect. There were no significant differences between any groups (i.e., treatment versus control groups, study location groups, respondents reporting awareness of non-profit housing versus respondent reporting no awareness, respondents living in primary zones versus those in secondary zones and homeowners versus renters) in perceived impacts of non-profit housing. These findings suggest that the negative impacts are more perceived than they are real.

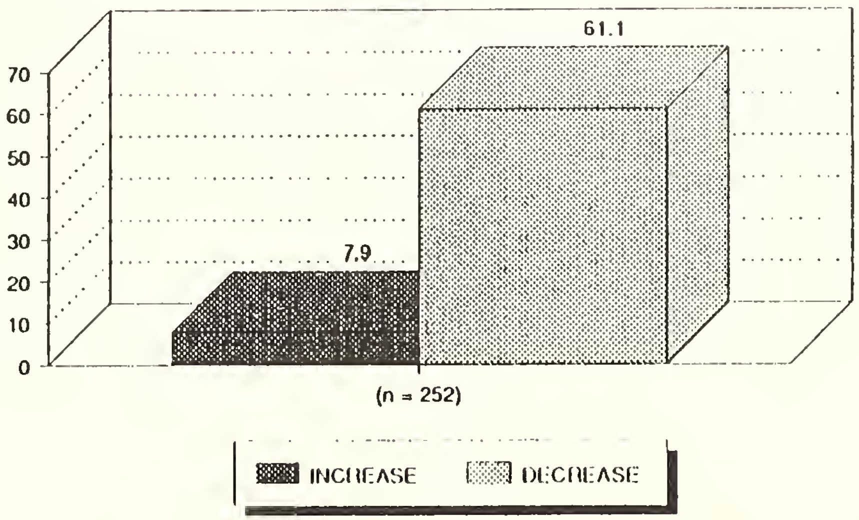
5.4 The Public Consultation Process

This final section focusses on the perceptions of and involvement in the public consultation process. For the purposes of this study, questions about the public consultation process were only asked of those residents who lived in the neighbourhood prior to the development of the project. Respondents were asked where they first learned that the non-profit housing project was being undertaken, their satisfaction with the public consultation process, satisfaction with the notice given and the type of action, if any, taken.

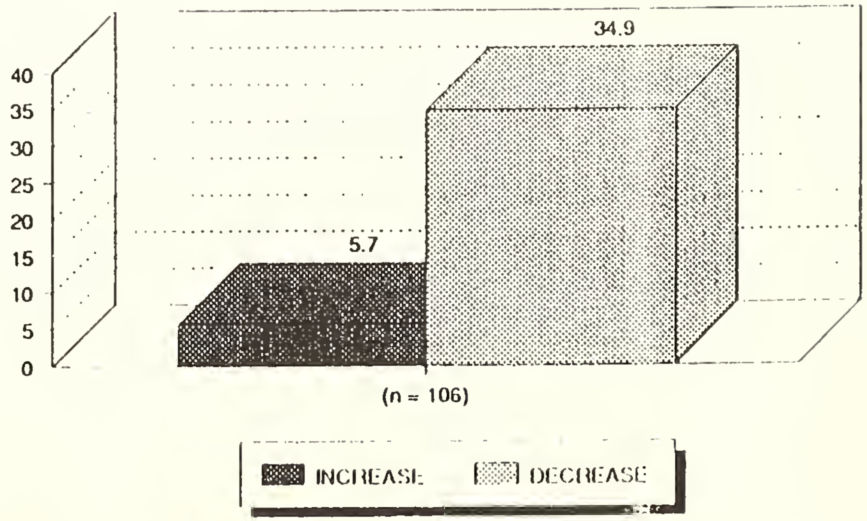
As can be seen in Exhibit 5.9, neighbours are the primary source of information about the development of a neighbourhood non-profit housing project. Also 24.2 per cent of residents who were aware if the project stated that they saw the construction, while only 9.8 per cent heard about the project through formal notification.

EXHIBIT 5.8
Perceived Impact of Non-Profit Housing on Property Values and Decision to Buy Home

IMPACT OF NON-PROFIT
HOUSING ON PROPERTY VALUES



EFFECT OF PROJECT ON
DECISION TO BUY HOME



Source: Survey of Neighbours 1988, n=381

EXHIBIT 5.9

Percentage of Respondents Reporting Where They First Learned That a Non-Profit Housing Project was Being Considered in Their Neighbourhood[1]

Source	Percentage (n = 132)
Heard about it through neighbourhood	31.1
Saw construction	24.2
Newspaper	9.8
Information from City Hall	9.8
Formal notification	9.8

Source: Survey of Neighbours 1988, n = 381

[1] Percentages do not include respondents who did not know about the project until they received the questionnaire and not all responses are included in totals.

Overall, residents are very dissatisfied with the public consultation process, in fact, 61.5 per cent of respondents stated that they were dissatisfied with the process compared to only 11.9 who reported they were satisfied (see Exhibit 5.10). Fifty-nine per cent of those who own their homes were dissatisfied with the public consultation process, whereas only 30 percent of those who rent were dissatisfied. Also, 71 per cent of those who were dissatisfied with the public consultation process were unwilling to have more non-profit in neighbourhood, although only 22 per cent felt that non-profit housing in general was a bad idea.

Only 15.5 per cent reported that they were given adequate notification that the project was being considered, whereas over 60 per cent stated that the notification was inadequate (Exhibit 5.11). Residents were also somewhat negative about the accuracy of the information they were given, where only 21.5 per cent stated that the information adequately reflected the finalised project (Exhibit 5.12).

EXHIBIT 5.10
Percentage of Residents Satisfied With the Public Consultation and Notification Process

	Percentage (n = 135)
Dissatisfied	61.5
Neutral	26.7
Satisfied	11.9
Total	**100.0**

Source: Survey of Neighbours 1988, n = 381

EXHIBIT 5.11
Percentage of Respondents Perceiving Notification of Project Consideration as Inadequate

	Percentage (n = 142)
Inadequate	67.7
Neither	21.8
Adequate	15.5
Total	**100.0**

Source: Survey of Neighbours 1988, n = 381

EXHIBIT 5.12
Percentage of Residents Perceiving the Information Given Accurately Reflected the Finalised Project

	Percentage (n = 130)
Inaccurate	39.2
Neither	39.2
Accurate	21.5
Total	**100.0**

Source: Survey of Neighbours 1988, n = 381

It is interesting that given these negative perceptions about the consultation process, a higher proportion of residents still did not report that better information about the process would have increased their acceptance of the project (see Exhibit 5.13).

EXHIBIT 5.13
Percentage of Residents Agreeing that Better Information About the Consultation Process Would Have Increased Their Acceptance of the Project

	Percentage (n = 83)
Disagree	43.4
Neither	20.5
Agree	36.1
Total	100.0

Source: Survey of Neighbours 1988, n = 381

These findings are all highly correlated with each other, suggesting that a respondent with a negative opinion with one aspect of the public consultation process is likely to have a negative opinion with all aspects of the process. Also, there were no significant differences in opinions across subgroups.

Respondents were asked what type of information they would like to have regarding further non-profit housing projects in their neighbourhood. Overall, 188 comments were recorded. Over one third of those (38 per cent) were made with regards to more information on specific aspects of the project. For example, 18 respondents indicated size of the project as an important piece of information to have. Location of the development in the community was another common concern. Background on the type of residents intended for the units was also mentioned. Other respondents indicated that they would like more information on specifics of the project, but did not detail what kind.

Fourteen percent (21 comments) referred to information about the impacts of the project on various aspects of the community. These included property taxes, property values, parking availability, traffic, schooling, crime and the general face of the neighbourhood.

Only 40 residents reported that they, or a member of their family took action when they heard non-profit housing was being considered in their neighbourhood. Of these, 11 contacted neighbours, 11 contacted their Alderman and 14 organised community resistance. None of the 40 contacted the provincial government.

Residents who took action generally felt that these actions had little or no impact on the way in which the non-profit housing project proceeded. In fact, 68.3 per cent reported that the action had no impact.

The action taken by respondents generally took place in Ottawa and Toronto where about one third of respondents proceeded with an active interest. Only 6.7 per cent of North Bay residents took any action. Also, about twice as many residents in the control groups as in the treatment groups, and twice as many homeowners as renters, took action.

These findings suggest a sense of frustration among the residents who took action in response to the development of the non-profit housing project. Not only did these respondents report that they found the public consultation and notification process inadequate and inaccurate, but the few who did proceed with action resisting the project felt their actions had no impact.

6.0 CONCLUSIONS

The non-profit housing program is the principal vehicle for delivering social housing in Ontario. As such it is the most important public program assisting in the provision of decent shelter for those Ontarians most in need. Over the past decade, there have been major changes in the delivery of social housing in Ontario. These reforms were assigned to minimize negative impacts and to enhance community acceptance of this type of stock. Despite these changes, neighbourhood resistance is still one of the major obstacles impeding the delivery of this program.

Past research has shown that neighbourhood fears are often unfounded.[1] However, perceived fears have real implications and neighbourhood resistance and NIMBY syndrome provide a new and difficult layer of problems for policy-makers and planners. The present research is designed to cut through the fear, hostility and ideology to find out the facts. We are essentially trying to answer the following questions.

The Questions

The overall question is quite simple. What is the impact of non-profit housing projects on property values? The question can be elaborated to consider how does the impact vary by market area and by the proximity to the project? However, the first and most important question is did non-profit projects negatively influence the property values of those properties surrounding them?

6.1 **The Logic of the Test**

In the simplest form, the test involved a comparison of the difference in average selling price of properties surrounding non-profit housing projects (before and after the introduction of the project) with the differences in the change in average selling price in a matched group of houses not having a non-profit housing project (over the same period). For purposes of convenience, we refer to the former group (with projects) as the "treatment" group and the latter (without projects) as the "control" group.[1] If we find that the change in average selling prices in the treatments groups is no different than the average selling prices in the control groups, then we can conclude that, overall, non-profit housing projects had no discernable impact on property values. On the other hand, if we find that property values in project areas declined, or even if they did not grow as quickly as property values in non-project areas, then we could conclude that the projects did indeed have a negative impact on property values.

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[1] See in particular, Ekos Research Associates Inc., "The Impact of Conversions on Neighbourhoods: Property Values and Perceptions" (1987) and Ekos Research Associates Inc., "A Study on Minor Residential Intensification in the City of Ottawa" (1987-88).

It is important to note that the control properties are drawn from the same basic neighbourhoods and matched in terms of size, age, and physical condition. By matching the control stock and the treatment stock as closely as possible on those variables which are likely to influence selling price (e.g., size, physical condition, neighbourhood), the impact of the projects themselves can be reasonably isolated. Furthermore, broader market forces such as the level of sales activity in the area, the relative economic robustness of the area, the availability of money, interest rates, etc are all held constant in this design since these effects apply equally to those properties within the project zone of influence and those in the control group. There are other potential threats to the validity of this design which we will discuss later.

6.1.1 Statistical Significance -- The Concept and the Test

We did not measure the value of every property before and after the project, nor did we sample every non-profit project. Therefore we must conduct an inferential statistical test to tell us whether or not our observed results are "real" or simply a product of chance. The purpose of testing for statistical significance (which is different from substantive significance) is to ensure that we do not falsely conclude that an observed difference which only occurs due to chance is a valid inference (to the broader population we are studying). The question of statistical significance, refers to the degree to which we can be confident that our sample differences resemble what would have happened if we had examined all possible cases in the population. Statistical significance is largely determined by how many cases we have in our sample, how "variable" they are and what level of risk or error we are prepared to tolerate. It should be noted that although our sample is restricted to only three cities (Toronto, Ottawa and North Bay) we do have a fairly large fraction of the total population (of all projects) and a reasonably large sample of properties. Therefore it is unlikely that we would be unable to detect a truly significant effect.

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[1] This is not a strict experimental or quasi-experimental design, but the terms convey the logic of the test.

Given the nature of our research design, the best statistical test is an analysis of variance test (ANOVA). ANOVA is designed to test if groups of properties differed in their overall sample mean for a specific measure. For example, one may wish to determine whether different housing markets vary significantly in their increase (or decrease) in property values. The null hypothesis is this:

$$\mu_1 = \mu_2 = \mu_3 = \ldots = \mu_x$$

This states that there is no difference between the mean property value changes for any market. This hypothesis is tested by decomposing the variance into two sources -- the within-groups variance and the between-groups variance. The ratio for the two variance estimates is known as the F-test. The procedures of analysis of variance can apply to any number of groups and can be used to assess the effects of two or more independent variables (e.g., treatment group versus control group and housing market). In this case, the between-group variance is partitioned into three components -- the treatment versus control effects, market effects, and the treatment versus control by market interactions. Each of these effects can be tested using the F-ratio. That is, the F-ratio tests the probability that the difference in pre- and post-development property values are a product of chance and not the effect of the non-profit housing project.

6.2 The Data

Having described the questions and the logic of the test, let us consider the basic data. The observations have been drawn in a random process. Projects were selected randomly and then *all* sales during the study period (viz., 1980-1988) were recorded. In examining the data it is often necessary to make some decisions about what to do with extreme cases. Extreme cases, also known as "outliers" are cases which depart radically from the central tendencies of the data. Because they are extreme they increase the variance (error) in the sample and may exert an inordinate influence on the overall results. Outliers can mask or distort findings which apply to the vast majority of the cases. On the other hand, outliers may reflect rare but important trends which will occur in the broader population being studied. Therefore decisions about whether to retain or eliminate outliers from the analysis are difficult ones.

In the present analysis, outliers are a vexing problem and in our judgement, there are good reasons for eliminating them from the analysis. Hence, the first analysis uses the data which we consider more reliable and does not include those cases which are either below $10,000 sales or above $200,000 sales. This eliminates about 30 cases from the analysis. The vast majority of the under $10,000 sales are one dollar sales and obviously should not be retained. The upper outliers are a little more difficult. Recall that sales of over $200,000 in 1981 dollars are well over $300,000 in current dollars. Most of the upper outliers were in fact *much* higher than this figure. When we consider the neighbourhoods we were examining, sales of several hundred thousand dollars were several times the mean sales value and hence we dropped these cases. If the reader disagrees with our judgement there is no difficulty in drawing their own conclusions since we will present the data both with and without the upper outliers. The lower outliers are purged from all analysis since they are clearly inappropriate for the test.[1] As the reader shall see, the inclusion or exclusion of upper outliers has no significant impact on our main conclusions. We begin with a presentation of the data without outliers.

Exhibit 6.1 shows the basic data. There are four categories or groups defined by the test. These are based on the cross-classification of time (pre, post) with exposure to project ("treatment", "control"). The data reflect the average selling price of those houses which sold in each of the four categories of the design. Inflationary effects have been largely removed by translating the sales values into constant dollars (based on 1981 dollars).

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[1] If they are included, no statistically significant changes occur.

EXHIBIT 6.1
Pre and Post Development Sales of Properties
(Excluding Outliers)

	Pre Development	Post Development
Treatment Group	$\bar{X}$ = \$65,785.70	$\bar{X}$ = \$66,663.07
	n = 122	n = 149
	s = \$30,709.80	s = \$29,981.08
Control Group	$\bar{X}$ = \$64,935.77	$\bar{X}$ = \$64,230.82
	n = 117	n = 104
	s = \$26,329.43	s = \$25,560.40

$\bar{X}$ = average selling price
n = number of properties sold during observations
s = standard deviation

Source: Survey of Neighbourhoods 1988, n = 492.

6.3 The Tests

Before conducting the formal statistical tests, a couple of conclusions are obvious from the table. The "treatment" group (reflecting sales around projects) went from an average of \$65,786 before the project to a mean of \$66,663 after the project. Sales during the actual years of the project were discounted, since we could not accurately determine whether they occurred prior to, during or after the project. Recognizing that these are constant dollars we can see that *there is no real difference in average selling prices before and after* the projects' introduction into the neighbourhood. In fact, there is a slight increase (beyond inflation) of \$877 which is a little over one per cent. Clearly there are no substantively significant differences across the two time periods and a simple difference of means test (known as a t-test) confirms that these differences are not statistically significant either.

These results suggest no negative impact, but our design requires controlled comparisons to the changes occurring in similar areas (typically within a block or so of the project and with matched housing). Although there are clearly no negative impacts apparent in the zones surrounding the projects, there still may be a relative negative effect. For example, if we found that prices rose at a much faster rate in the control zones, than we might still conclude that non-profit projects dampen the growth of property values.

In examining the change in the control group, it is readily apparent that this hypothesis can be dismissed. The average selling price in the pre period was $64,936 which is basically the same pre value for the "treatment" group. Examining the post average selling value for the "control" group, we see that it is also virtually unchanged at $64,231. The "control" (viz., without projects) group dropped by an insignificant $705 during the same period that the "treatment" (viz., with project) group increased by $877.

6.3.1 Summary of Findings

None of the differences between "pre" and "post" are statistically significant (see Exhibit 6.2). We can say with equal conviction that none of these changes are substantively important either. Consequently, it is not surprising that when we conduct a two-way analysis of variance on time and treatment there are no statistically significant effects discernable. Therefore, from these tests, *we can say categorically that non-profit housing projects had no overall negative influences on the property values of the neighbouring property.*

EXHIBIT 6.2
Analysis of Variance of Pre and Post Development
Sales of Properties Between $10,000 and $200,000

Source of Variation	F	DF	Significance of F
Main Effects			
TIME	0.013	1	0.909
Explained	0.013	1	0.090

Source: Survey of Neighbourhoods 1988, n = 492.

6.4 Other Breakdowns and Variations

Having answered the central questions in unequivocal terms, we can now consider some of the more refined versions of the question presented earlier. There are really three outstanding questions:

(1) Are the results and conclusions any different if the upper outliers are retained in the analysis?

(2) Do the results vary significantly by market area?

(3) Are there any interactive effects between market area, treatment and time?

The first outstanding question is whether the results and conclusions differ if the upper outliers are retained in the analysis. If we look at the breakdown including the properties which sold for more than $200,000, we see that property values in the treatment groups rose on average more than $7,000 from the pre-development to the post-development period, while the property values in the control groups decreased almost $800 (see Exhibit 6.3).

EXHIBIT 6.3
Pre and Post Development Sales of Properties Above $10,000

	Pre Development	Post Development
Treatment Group	$\bar{X} = \$65,785.70$	$\bar{X} = \$73,382.81$
	$n = 122$	$n = 154$
	$s = \$30,709.80$	$s = \$51,089.70$
Control Group	$\bar{X} = \$69,482.83$	$\bar{X} = \$68,714.67$
	$n = 119$	$n = 106$
	$s = \$44,815.55$	$s = \$42,404.66$

$\bar{X}$ = average selling price
n = number of properties sold during observations
s = standard deviation

Source: Survey of Neighbourhoods 1988, n = 501.

Although substantively these data suggest that non-profit housing has a positive impact on property values, the differences are still not statistically significant (see Exhibit 6.4).

EXHIBIT 6.4
Analysis of Variance of Pre and Post Development Sales of Properties Above $10,000

Source of Variation	F	DF	Significance of F
Main Effects			
TIME	0.992	1	0.320
Explained	0.992	1	0.320

Source: Survey of Neighbourhoods 1988, n = 501.

The second outstanding question refers to the variations of the results by market area. Exhibit 6.5 presents this breakdown. As we can see, with the exception of Ottawa, there are minimal changes between the values of properties sold before and after the development of non-profit housing projects in both treatment and control groups. However, in Ottawa, property values rose almost 10 per cent ($5,807) in the control groups and nearly 15 per cent ($8,883) in treatment groups. Again, as seen in Exhibit 6.6, these differences are not statistically significant. The main effects of market area are significant (i.e., Ottawa, Toronto and North Bay are significantly different). However the main effects (or first order influences) are really not of interest in terms of this design. This simply means that property values are significantly different in these three centres (which confirms the obvious).

EXHIBIT 6.5
Pre and Post Development Sales of Properties Between $10,000 and $200,000 by Market Area

Ottawa	Pre Development	Post Development
Treatment Group	$\bar{X} = \$63,572.99$	$\bar{X} = \$72,455.76$
	n = 36	n = 46
	s = $26,557.89	s = $24,183.35
Control Group	$\bar{X} = \$64,779.91$	$\bar{X} = \$70,586.86$
	n = 35	n = 36
	s = $31,532.99	s = $25,295.76
Toronto		
Treatment Group	$\bar{X} = \$74,925.11$	$\bar{X} = \$73,514.47$
	n = 65	n = 71
	s = $31,959.52	s = $33,568.31
Control Group	$\bar{X} = \$72,253.55$	$\bar{X} = \$72,242.98$
	n = 62	n = 41
	s = $21,864.66	s = $24,509.51
North Bay		
Treatment Group	$\bar{X} = \$41,290.99$	$\bar{X} = \$43,134.52$
	n = 21	n = 32
	s = $17,104.60	s = $13,007.35
Control Group	$\bar{X} = \$42,523.41$	$\bar{X} = \$43,589.48$
	n = 20	n = 27
	s = $14,652.89	s = $14,249.16

$\bar{X}$ = average selling price
n = number of properties sold during observations
s = standard deviation

Source: Survey of neighbourhoods 1988, n = 492.

EXHIBIT 6.6
Analysis of Variance of Pre and Post Development Sales of Properties Between $10,000 and $200,000

Source of Variation	F	DF	Significance of F
Main Effects	25.230	4	0.000
TIME	0.921	1	0.338
TREATCON	0.131	1	0.717
CITY	50.209	2	0.000
2-way Interactions	0.503	5	0.774
TIME TREATCON	0.009	1	0.923
TIME CITY	1.178	2	0.309
TREATCON CITY	0.117	2	0.890
3-way Interactions	0.085	2	0.919
TIME TREATCON CITY	0.085	2	0.919
Explained	9.419	11	0.000
Residual		480	

Source: Survey of Neighbourhoods 1988, n = 492.

The final question to be addressed is whether there exists any interactive effects between market area, treatment groups and time. Interaction refers to the effect the independent variables *jointly* have on the dependent variable. In this case, how much do market area, treatment groups and time jointly affect property values? Referring back to Exhibit 6.6, we see that the *F* value associated with time, treatment and market area interaction is 0.085 and the observed significance level is 0.919. It thus appears that there is no interaction between the three variables. In other words, the combination of these variables has no significant influence on property values.

6.5 Discussion: Potential Threats to the Validity of the Findings

It is always possible to construct a multitude of reasons why the findings may be invalid. However, it is important to note that the tests which we developed, while imperfect, were reasonable and were specified *before the data were collected*. As such, the test was formulated in what Karl Popper calls a critically-falsifiable manner. Therefore, they avoid one of the greatest potential fallacies, that is, the classical problem of induction or the fallacy of affirming one's consequent. It is very easy to organize the facts to fit the theory *after the fact*. Here, our test was formulated in advance, according to a transparent logic and it was impossible to meddle with the conclusions after the data had been collected (assuming intellectual honesty).

Rather than trying to ingeniously speculate as to all of the possible reasons that the conclusion might be invalid, let us focus on the major reasonable threats to validity. We can distinguish between threats to internal and external validity. We can also distinguish measurement errors, data reliability and other forms of method errors.

6.5.1 Internal Validity Threats

Internal validity refers to the degree of control that our design exerts. Are we truly able to isolate the impact of the independent variable (exposure to a project) from other potential causal factors? This issue has been introduced in the logic of the test section. Since we do not have experimented control (i.e., random assignment to a treatment and control group) it is possible that there are compositional biases in the groups. In other words, there is a chance that certain other (unmeasured) variables are systematically correlated with the chances of being in either the control or treatment group. If there is an unmeasured causal variable which is correlated with the composition of the groups, then any causal inference may be spurious (i.e., truly due to the antecedent effects of the unobserved variable). In the present case, this is unlikely. In cases involving human subjects, this sort of bias is quite common (e.g., people who are undergoing some sort of program treatment often are more likely to display personality traits associated with the outcome variable than those in a quasi-control group). It is possible that non-profit housing projects are implemented in micro areas which are quite different than the areas a block or so away. Our field experience suggests this is not typically the case. Furthermore, our process of matching ensures that the stock in the two types of zones are quite similar. In some cases, matching will produce control groups of extreme cases. In these situations, the selection of extreme cases for the control group can often produce an artificial movement (or regression) towards the mean. This problem, known as the regression discontinuity problem, is much more applicable to human subject designs and is not applicable here since the matched cases were in no way extreme or unusual. Finally, since we found no causal relationships, the usual problems of spurious inference are less likely to afflict the conclusion.

Threat to Internal Validity

Some might argue that the "control" groups are so close the "treatment" groups that they are susceptible to the influences of the non-profit project as well. We are confident that the overall finding would remain the same by virtue of the fact that the overall change in selling price across both groups (i.e., collapsing the "control" and "treatment" groups) shows no significant difference. In other words, even if the so called "control" group is truly within the zones of influence of the non-profit project, we can still be secure in our conclusion of no negative effect because there is no decline in property values in the combined "control" and "treatment" group area.

6.5.2 External Validity Threats

Another important series of threats are external validity issues. These refer to the question of whether or not the findings are generalizable to the broader population. In other words, is it likely that these results would have occurred if we had examined every possible case.

First of all, our sample is restricted to the time period 1980-1988. It makes no claims to earlier periods. As to whether the results apply to the post 1988 period, it is possible that they do not, but in the absence of a compelling reason to think otherwise (e.g., a profound shift in some of the causal variables influencing property values and non-profit projects), we believe the results should be applicable.

Next, there is the issue of geographic representativeness of the sample. We do not have all projects in the population but we do have those drawn from a very large, metropolitan market (Toronto), a medium-large city (Ottawa) and a smaller city (North Bay). Moreover, the projects we considered represent a very large fraction of the eligible projects in those three centres. Those three centres account for well over half the entire inventory of non-profit housing projects in Ontario. Therefore, we strongly believe that the study results are externally valid to most of the situations people have in mind when thinking about this problem.

It is possible that the zone of influence used to test the distance-decay hypothesis was not large enough and that the true effects of non-profit housing may extend even beyond the control neighbourhood. That is, a more credible estimate of the effects of non-profit housing on property values of varying distances may have emerged had the zone of influence been enlarged. Our assumption that distance-decay is a local phenomenon is based on previous tests similar in scope to the present study. In fact, when we enlarge the zones of influence to include the control neighbourhoods, we find no statistically significant differences in pre- and post-development property values in the overall group. We can thus conclude that there are no significant differences in pre-and post-development property values regardless of distance from the non-profit housing property.

There were certain restrictions on which types of projects were defined as eligible for the study. We did *not* include group homes and special care facilities. We felt that their inclusion would confound the design. Therefore, we make no claims to representing that class of project. In addition, several otherwise eligible non-profit projects were excluded since they could not meet the requirements for the research design. A major example was the situation where the project was surrounded by other projects and therefore the property value tests were meaningless. We do not believe these exclusions significantly affect the generalizability of our conclusions although our findings do not apply to projects surrounded by other projects. These really are not part of the study problem we were addressing.

Finally, we note that our findings closely parallel findings from independent research conducted in several other North American market areas. These include:

- Hugh Nourse, "The Effect of Public Housing on Property Values in Saint Louis" (1963);
- Robert Schafer "The Effect of BMIR Housing on Property Values" (1972);
- Joseph DeSalvo, "Neighbourhood Upgrading Effects of Middle Income Housing Projects in New York City" (1974);
- Linda Saunders and Micheal Woodford, "The Effect of a Federally Assisted Housing Project on Property Values" (1979);
- Elizabeth Warren, Robert Aduddell, and Raymond Tatalovich, "The Impact of Subsidized Housing on Property Values: A Two Pronged Analysis of Chicago and Cook County Suburbs" (1983);
- Lynn Sedway and Associates, "Impacts of Affordable Housing on Property Values" (1983);
- Carol Babo, Louis Pol, and Rebecca Guy, "The Impact of Federally-Assisted Housing on Single Family Housing Sales: 1970-1980" (1984);
- William Rabiega, Ta-Win Lin, and Linda Robinson, "The Property Value Impacts of Public Housing Projects in Low and Moderate Density Residential Neighbourhoods" (1984);
- Stephen Farber, "Market Segmentation and the Effects of Group Homes for the Handicapped on Residential Property Value" (1986);
- Ekos Research Associates Inc. "The Impact of Conversion on Neighbourhoods: Property Values and Perceptions" (1987); and
- Ekos Research Associates Inc. "A Study on Minor Residential Intensification in the City of Ottawa" (1987-88);

6.5.3 Measurement And Other Method Errors

Measurement refers to whether or not the empirical indicator (i.e., Teela records of sales) faithfully measures the underlying concept (i.e., property value). It is our view that the actual market determination, as expressed in selling price, is the most valid measure. Certainly some cases, such as one dollar sales, are invalid, but these have been eliminated.

Since all properties obviously did not sell during the study period, those which did act as a proxy for the value of those not selling. With over 500 sales, we are not terribly concerned that this sample does not accurately reflect the values of the non-selling stock. An alternate approach would have been to use professional appraisals. In our view, this would have been an inferior method since the appraiser merely estimates value whereas the market truly determines value. Moreover, the appraiser would have used the same data (recent sales in the area) as a major input into his or her evaluation. Other factors influencing property values are not really of interest here. Therefore, if we had substituted appraised values in this design, we would have merely isolated the appraiser's *opinion* about the effect of the project on the property value. Clearly, this is a less scientific and less convincing approach.

Other method errors refer to errors due to transcription, coding, computer truncation, etc.. In our view, none of these sources of errors are significant here.

Conclusion

Having reviewed the major threats to validity, the logic of the design and the clarity of the evidence and tests, we can once again conclude with unusual certainty that non-profit housing projects had no overall negative impact on property values. Moreover, this conclusion holds true regardless of market area.

APPENDIX A

Final Sample of Non-Profit Housing Projects

Toronto Area

Riverdale News
436 Leslie Avenue
Toronto

Brunswick/Howland
316 - 318 Brunswick/Howland
Toronto

Copernicus Lodge
66 Roncesvalles Avenue
Toronto

Riverdale Co-op
1359 - 69 Queen Street East
Toronto

Church Station Charitable Foundation
345 Dufferin Street
Toronto

Perth Avenue Housing Co-op
120 Perth Avenue
Toronto

195 - 201 Chatham Avenue
Toronto

Coxwell Stables
426 Coxwell Avenue
Toronto

Zahav Charitable Foundation
625 Finch Avenue West
North York

Ann Marie Hill Co-op
170 Galloway Road
Scarborough

Bridletowne Circle Co-op
31 Bridletowne Circle
Scarborough

Cedarbrook Park Co-op
Markham Road and Blakemanor Boulevard
Scarborough

St. Clair/O'Connor Community
2701 St. Clair Avenue East
East York

139 Stephenson Avenue
Toronto

320 Kingston Road
Toronto

Davenport/Shaw
1087 Davenport Road
Toronto

St. David's Tower
51 Dowlands Avenue
Toronto

Hellenic Homes
1098 Davenport Road
Toronto

MNP Housing
44 - 58 Keele Street

40 Queen Victoria Street
Toronto

Rakoczi Villa
747 St. Clair Avenue West
Toronto

Stanley Knowles Housing Co-op
39 Orchard View Boulevard
North York

William M. Beggs Housing Co-op
Eglinton Avenue East at Midland Avenue
Scarborough

Kenfinch Co-op
39 Wayside Avenue
Scarborough

Birchcliffe Co-op
1691 Kingston Road
Scarborough

Islington/Finch
2765 Islington Avenue
Etobicoke

William Punnet Housing Co-op
3077 Lakeshore Boulevard
Etobicoke

George Barlow Co-op
630 Middlefield Road
Scarborough

Art Burke Housing Co-op
311 Washburn Way
Scarborough

Bruckland Charitable Foundation
100 Mason Road
Scarborough

North Bay Area

North Bay Municipal Non-Profit
Housing Corporation
555 McNamara Street

Shibelith (Family Homes) Inc. #2
667 - 10 Gormanville Road

Shibelith Anna Marie Meadows
866 Lakshore Road

Shibelith (Moss Court) Incorp.
134 Lindsay Street

Shibelith (Family Homes) Inc.
47 Gladstone Avenue

Harmony Haven Housing Coop
117 Marshall Avenue East
North Bay

Ottawa Area

665 Bathgate Drive

Presland I

Dovercourt Housing
25 Molenaar Private

Westboro Housing Co-op Phase 2
Lion's Park/Clare Street

Booth/Primrose
200 - 222 Booth Street

20 Robinson Avenue

298 Arlington Street

Carling/Poulin Street

Presland II

Sandy Hill Housing Co-op
Somerset Street East

Centretown Citizen Ottawa Corp.
345 Waverley Street

145 - 181 Bruyere Street

Dalhousie NP Housing Co-op
Cambridge and Lebreton Streets

Loretta/Young Street

APPENDIX B

Treatment Group Instrument with Marginals

Ministry of Housing
777 Bay Street, 4th Floor
Toronto, Ontaro
M5G 2E5

Ekos Research Associates
Suite 200, 237 Argyle Ave.
Ottawa, Ontario

Dear Sir/Madam:

Ekos Research Associates has been hired by the Ministry of Housing to conduct a study of perceptions within neighbourhoods towards non-profit Housing. Non-profit Housing involves the provision of adequate, affordable shelter for a major sector of Ontario society who are otherwise unequipped to compete in the tight provincial housing market. Your opinions about your neighbourhood and non-profit housing will assist the Ministry of Housing in developing and planning for non-profit housing projects.

As a resident in a neighbourhood in which non-profit housing has been developed, we are asking for your input into this important study by filling in this questionnaire. Only a limited number of neighbourhoods in Ontario have been chosen for this study; thus, your opinions are extremely valuable to us.

The questionnaire is divided into four sections, which should take you about 10 minutes to complete. The questionnaire should be completed by a resident of this dwelling over the age of 18 who is familiar with the financial arrangements of the house. Your answers will be kept **completely confidential** and your identity will remain **anonymous**.

When you have completed the form, please enclose it in the self-addressed, stamped envelope provided and drop it in a mailbox. For answers to any questions that you may have about the survey, call Susan Galley, Ekos Research at (613) 235-7215 in Ottawa or North Bay or Carole Fischer, Ekos Research at (416) 861-1353 in Toronto.

Thank you for your assistance in this important study.

TREATMENT

INSTRUCTIONS FOR COMPLETING THIS QUESTIONNAIRE
EXAMPLE — DO NOT COMPLETE

On the following pages you will find 17 questions divided into four sections. Some of these concern factual information. Other questions concern your opinions. Examples of the types of questions you will find are as follows:

1. Many of our questions require that you choose a category. For these items, please circle the number corresponding to the category which best fits your answer. For example:

   Do you own or rent this dwelling?

   OWN 1
   RENT 2
   OTHER 3

2. Many of the questions ask you to provide numerical answers. Please enter your responses in the boxes provided. For example:

   How long have you lived in your present home?

   ☐☐ YEARS ☐☐ MONTHS

3. Some of the questions are posed as seven point scales in which we are asking you to rate the strength or "quality" of a concept. For each item please circle the number corresponding to the answer that best fits your response. For example:

   How would you rate your current level of satisfaction with your neighbourhood with respect to each of the following factors?

   EXTREMELY DISSATISFIED — NEITHER — EXTREMELY SATISFIED

   1 2 3 4 5 6 7

4 Finally, some of the questions simply ask you to consider an issue and write out your response. For all questions, please give your best or the most "correct" response. If the categories provided do not precisely reflect your opinion, choose the answer that comes the closest.

I. NEIGHBOURHOOD PERCEPTIONS

The first few questions concern your impressions of your neighbourhood

1. How long have you lived in your neighbourhood?

YEARS $\bar{x}$ = 15.19 md = 7.00 s = 18.00 n = 169
MONTHS $\bar{x}$ = 5.42 md = 5.00 s = 4.70 n = 142

2. How long have you lived in your present home?

YEARS $\bar{x}$ = 12.75 md = 5.00 s = 16.36 n = 165
MONTHS $\bar{x}$ = 5.35 md = 5.00 s = 4.43 n = 148

3. How would you rate your current level of satisfaction with your neighbourhood with respect to each of the following factors? Please rate your satisfaction on a 7 point scale where 1 is extremely dissatisfied, 7 is extremely satisfied and 4 is neither satisfied nor dissatisfied.

	EXTREMELY DISSATISFIED			NEITHER			EXTREMELY SATISFIED			
	1	2	3	4	5	6	7	$\bar{x}$	s	n
a) Availability of street parking	19.3	12.0	12.5	24.0	12.0	8.9	11.5	3.70	1.94	192
b) Level of street traffic	19.2	9.3	14.0	20.7	15.5	12.4	8.8	3.77	1.91	193
c) Physical appearance of the street	5.7	6.7	18.6	14.4	28.4	18.6	7.7	4.40	1.60	194
d) Property values in the neighbourhood	5.9	5.9	10.7	24.1	28.9	19.3	5.3	4.43	1.49	187
e) Amount you socialise with your neighbours	5.7	8.8	7.3	38.9	18.7	14.5	6.2	4.24	1.49	193
f) Amount of visual privacy from your neighbourhood	8.9	14.6	14.1	17.7	17.7	16.7	10.4	4.12	1.82	192
g) Level of noise	17.2	9.9	18.2	17.2	16.1	14.6	6.8	3.76	1.85	192
h) Your overall satisfaction with the neighbourhood	0.5	8.8	13.9	12.9	29.4	28.4	6.2	4.72	1.42	194

The Non-Profit Housing Program is a combined federal-provincial initative aimed at helping non-profit housing agencies produce modest, cost-efficient housing for persons with low to moderate incomes.

4. **Are you aware of non-profit housing in your neighbourhood?**

Yes	1	68.4	$\bar{x} = 1.32$
No	2	31.6	$s = 0.47$
			$n = 193$

5.a) **Do you own or rent the dwelling you are presently living in?**

Own	1	73.8	$\bar{x} = 1.26$
Rent	2	26.2	$s = 0.44$
			$n = 191$

b) **IF YOU OWN THIS DWELLING: What impact do you think non-profit housing projects have had on your property values?** Please rate your answer on a scale from 1 to 7 where 1 is extremely negative, 7 is extremely positive, and 4 is no impact.

EXTREMELY NEGATIVE IMPACT			NO IMPACT			EXTREMELY POSITIVE IMPACT	DID NOT KNOW OF PROJECT UNTIL NOW
1	2	3	4	5	6	7	9
23.2	14.4	24.0	29.6	3.2	3.2	2.4	

$\bar{x} = 2.94$
$s = 1.48$
$n = 125$

c) **ANSWER ONLY IF YOU BOUGHT YOUR HOME AFTER 198_: How did the presence of a non-profit housing project in the neighbourhood effect your decision to purchase your dwelling?** Please rate your answer on a 1 to 7 scale where 1 is extremely negative effect, 7 is an extremely positive effect, and 4 is have no effect.

EXTREMELY NEGATIVE FACTOR			NO IMPACT			EXTREMELY POSITIVE FACTOR
1	2	3	4	5	6	7
6.9	10.3	24.1	51.7	1.7	1.7	3.4

$\bar{x} = 3.50$
$s = 1.20$
$n = 58$

II. PERCEPTIONS OF NON-PROFIT HOUSING

This next section deals with your perception of non-profit housing.

6. Please indicate whether you agree or disagree with the following statements about non-profit housing. Please rate your agreement on a scale from 1 to 7 where 1 means you strongly disagree 7 means you strongly agree and the midpoint 4 means you neither agree nor disagree.

	STRONGLY DISAGREE			NEITHER			STRONGLY AGREE			
	1	2	3	4	5	6	7	$\bar{x}$	s	n
a) Non-profit housing is a good idea	7.9	3.2	7.9	15.3	16.3	15.8	33.7	5.11	1.88	190
b) There is a need for non-profit housing in my city	5.8	4.7	6.3	14.2	13.2	16.3	39.5	5.31	1.85	190
c) I am willing to have more non-profit housing in my neighbourhood	33.5	10.3	7.2	13.9	8.2	6.2	19.6	3.52	2.33	191

7. How would the following factors influence your acceptance of non-profit housing projects? Please rate each answer on a 1 to 7 scale where 1 is substantially decrease, 7 is substantially increase, and 4 is no impact on your acceptance.

	SUBSTANTIALLY DECREASE			NO IMPACT			SUBSTANTIALLY INCREASE			
	1	2	3	4	5	6	7	$\bar{x}$	s	n
a) If the project had adequate parking space available for residents, my acceptance of non-profit housing project would	6.3	2.1	4.7	38.5	16.7	13.5	18.2	4.71	1.60	192
b) If design of the project was compatible with the rest of the neighbourhood, my acceptance of non-profit housing would	5.7	2.6	4.7	25.5	21.4	22.4	17.7	4.92	1.59	192
c) If there were a limited number of projects per neighbourhood, my acceptance of non-profit housing would	6.8	2.6	5.2	24.0	18.2	17.7	25.5	4.99	1.73	192
d) If the design of the project respected the privacy of adjacent lots, my acceptance of non-profit housing would	4.2	2.6	4.2	21.9	20.3	22.4	24.5	5.17	1.57	192
e) If the project housed people of similar background, interests and lifestyles compatible to the residents of the neighbourhood, my acceptance of non-profit housing would	5.3	0.5	5.3	30.0	18.4	20.0	20.5	4.95	1.60	1.90

THE FOLLOWING SECTION SHOULD BE ANSWERED ONLY BY THOSE RESIDENTS HAVING LIVED IN THEIR PRESENT DWELLING PRIOR TO 198_. OTHERWISE SKIP TO SECTION IV.

III PERCEPTIONS OF AND INVOLVEMENT IN THE PUBLIC CONSULTATION PROCESS

In some instances, prior to proceeding with a non-profit housing project, public consultation takes place. This may be through notifying neighbours of the project by notices in the mail, in newspapers and/or public meetings. The next series of questions relate to your satisfaction and involvement with the public consultation process prior to the development of the project.

8. **Do you remember where you first learned that a non-profit housing project was being undertaken?** (Please circle only one number from the list below.)

I did not know of this project until now	01	22.8
I saw the construction	02	21.7
I saw a notice in the newspaper	03	7.6
I heard about it on the radio	04	1.1
I saw something about in on television	05	1.1
I heard about it through neighbours, friends.	06	21.7
I received some information from City Hall ..	07	8.7
I received formal notification	08	10.9
I do not remember	09	4.3
Other (please specify) __________________ ...	☐☐	

$\bar{x} = 4.16$
s = 2.75
n = 92

9.a) **Do you feel you were given adequate notice that non-profit housing was being considered?** Please rate your answer on a 1 to 7 scale where 1 is extremely inadequate, 7 is extremely adequate and 4 is neither adequate nor inadequate.

EXTREMELY INADEQUATE			NEITHER			EXTREMELY ADEQUATE
1	2	3	4	5	6	7
29.3	12.0	17.3	22.7	5.3	4.0	9.3

$\bar{x} = 3.12$
s = 1.90
n = 75

9.b) How accurately did the information you were given reflect the finalised project. Please rate your answer on a 1 to 7 point scale where 1 is extremely inaccurate, 7 is extremely accurate and 4 is neither accurate nor inaccurate.

EXTREMELY INACCURATE			NEITHER			EXTREMELY ACCURATE
1	2	3	4	5	6	7
18.1	9.7	9.7	36.1	13.9	6.9	5.6

$\bar{x}$ = 3.61
s = 1.71
n = 72

10.a) Did you or any member of your family take any action when you heard non-profit housing was being considered?

YES	1	42.6	$\bar{x}$ = 1.57
NO	2	57.4	s = 0.50
			n = 68

b) IF YOU TOOK ACTION: Did you: [Circle only one]

Contact neighbours	01	28.6	$\bar{x}$ = 2.50
Contact your Alderman, MPP	02	32.1	s = 1.29
Contact the provincial government	03	0.0	n = 28
Organise community resistance	04	39.3	
Other (please specify) ________________ ________________..	☐☐		

c) IF YOU TOOK ACTION: How would you rate the impact your actions had on the way in which the non-profit housing project proceeded? Please rate your answer on a 1 to 7 scale where 1 is a no impact, 7 is a high impact, and 4 is a moderate impact.

NO IMPACT			MODERATE IMPACT			HIGH IMPACT
1	2	3	4	5	6	7
43.3	16.7	10.0	20.0	3.3	6.7	0.0

$\bar{x}$ = 2.43
s = 1.61
n = 30

11.a) Overall, how satisfied were you with the public consultation and notification process while the project was in the proposal stage? Please rate your answer on a 1 to 7 scale where 1 is extremely dissatisfied, 7 is extremely satisfied and 4 is neither satisfied nor dissatisfied.

EXTREMELY DISSATISFIED			NEITHER			EXTREMELY SATISFIED
1	2	3	4	5	6	7
30.7	13.3	12.0	32.0	6.7	4.0	1.3

$\bar{x}$ = 2.88
s = 1.59
n = 75

b) IF YOU WERE DISSATISFIED WITH THE PROCESS (1, 2 OR 3): Please indicate whether you agree or disagree with the following statement:

I would have been much more accepting of the project if I had been better informed about the process. Please rate your answer on the seven-point scale where 1 is completely disagree, 7 is completely agree and the midpoint 4 is neither agree nor disagree.

COMPLETELY DISAGREE			NEITHER			COMPLETELY AGREE
1	2	3	4	5	6	7
31.7	7.3	4.9	22.0	2.4	17.1	14.6

$\bar{x}$ = 3.66
s = 2.29
n = 41

12. If further projects are going to take place in your neighbourhood, what kinds of information would you like to have?

IV. BACKGROUND CHARACTERISTICS

To complete this questionnaire, we would like some basic information about the characteristics of yourself and your household.

13. Which of the following best describes your household? (Please circle one number from the list below.)

One person, living alone	01	17.6	
One adult with children	02	8.0	$\bar{x} = 3.23$
A married or common-law couple, without children	03	24.5	$s = 1.34$
A married or common-law couple, with children	04	36.7	$n = 188$
Two or more unrelated persons	05	10.1	
Two or were related persons	06	3.2	

Other (please specify) ____________________ . ☐☐

14. What is the highest level of formal education which you have achieved?

	GRADE COMPLETED		
Primary School	☐☐	2.6	
High School	☐☐	19.1	
Some community college	14	7.4	$\bar{x} = 15.28$
Community college graduate	15	12.8	$s = 2.58$
Some university	16	14.4	$n = 188$
University graduate	17	25.5	
Post graduate	18	18.1	

15. What is your present occupation (or former occupation, if retired)? (Please circle only one number from the list below.)

Labourer/semi-skilled/skilled tradesmen	01	15.3	
Sales, service, clerical	02	12.6	$\bar{x} = 2.66$
Professional/managerial or administrative	03	65.3	$s = 0.87$
Homemaker	04	4.7	$n = 190$
Other (please specify) Student	.	2.1	

16. What is the language you first learned in childhood and still understand?

English	01	70.7	
French	02	13.8	$\bar{x}$ = 1.00
Other (please specify)	☐☐	15.4	s = 1.08
______________________________ .			n = 188

17. Considering all sources, what was your approximate total household income in 1987 before taxes? Please include all sources including employment wages or salaries, pensions, investments, rents and payments from government. Please round to nearest thousand.

$\bar{x}$ = 52,800.00   s = 37,570.00
md = 45,000.00   n = 169

18. Do you have any further comments or concerns?

____

____

____

____

PLEASE RETURN THE COMPLETED QUESTIONNAIRE BY MAIL IN THE STAMPED SELF-ADDRESSED ENVELOPE PROVIDED.

THANK YOU VERY MUCH FOR PARTICIPATING IN THIS SURVEY. Your answers will help us to develop a full profile of experiences and perceptions about non-profit housing. Your contribution to this study will help the Ministry of Housing improve planning and ultimately benefit the province as a whole.

APPENDIX C

Control Group Instrument with Marginals

Ministry of Housing
777 Bay Street, 4th Floor
Toronto, Ontaro
M5G 2E5

Ekos Research Associates
Suite 200, 237 Argyle Ave.
Ottawa, Ontario

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   Do you own or rent this dwelling?

   OWN 1
   RENT 2
   OTHER 3

2. Many of the questions ask you to provide numerical answers. Please enter your responses in the boxes provided. For example:

   How long have you lived in your present home?

   ☐☐ YEARS ☐☐ MONTHS

3. Some of the questions are posed as seven point scales in which we are asking you to rate the strength or "quality" of a concept. For each item please circle the number corresponding to the answer that best fits your response. For example:

   How would you rate your current level of satisfaction with your neighbourhood with respect to each of the following factors?

EXTREMELY DISSATISFIED			NEITHER			EXTREMELY SATISFIED
1	2	3	4	5	6	7

4 Finally, some of the questions simply ask you to consider an issue and write out your response. For all questions, please give your best or the most "correct" response. If the categories provided do not precisely reflect your opinion, choose the answer that comes the closest.

I. NEIGHBOURHOOD PERCEPTIONS

The first few questions concern your impressions of your neighbourhood

1. How long have you lived in your neighbourhood?

YEARS $\bar{x}$ = 12.77 md = 8.00 MONTHS $\bar{x}$ = 5.15 md = 5.00
s = 13.22 n = 163 s = 2.88 n = 126

2. How long have you lived in your present home?

YEARS $\bar{x}$ = 11.66 md = 8.00 MONTHS $\bar{x}$ = 5.19 md = 5.00
s = 11.45 n = 157 s = 2.85 n = 134

3. How would you rate your current level of satisfaction with your neighbourhood with respect to each of the following factors? Please rate your satisfaction on a 7 point scale where 1 is extremely dissatisfied, 7 is extremely satisfied and 4 is neither satisfied nor dissatisfied.

	EXTREMELY DISSATISFIED			NEITHER			EXTREMELY SATISFIED			
	1	2	3	4	5	6	7	$\bar{x}$	s	n
a) Availability of street parking.....	10.3	9.7	12.4	22.7	17.8	11.9	15.1	4.24	1.85	185
b) Level of street traffic	10.2	11.8	15.0	18.2	15.5	18.2	11.2	4.17	1.85	187
c) Physical appearance of the street .	4.3	7.0	12.4	17.2	28.5	21.0	9.7	4.60	1.56	186
d) Property values in the neighbourhood	3.3	5.5	7.1	23.1	29.1	18.7	13.2	4.78	1.49	182
e) Amount you socialise with your neighbours	2.2	6.5	8.6	31.9	20.0	17.8	13.0	4.06	1.48	185
f) Amount of visual privacy from your neighbourhood	5.9	10.3	17.3	16.8	20.0	20.0	9.7	4.33	1.70	185
g) Level of noise	8.6	11.2	16.6	12.3	17.6	21.9	11.8	4.32	1.85	187
h) Your overall satisfaction with the neighbourhood	0.5	2.1	6.4	17.1	26.7	32.6	14.4	5.23	1.25	187

I. NEIGHBOURHOOD PERCEPTIONS

The first few questions concern your impressions of your neighbourhood

1. How long have you lived in your neighbourhood?

YEARS $\bar{x}$ = 12.77 md = 8.00 MONTHS $\bar{x}$ = 5.15 md = 5.00
s = 13.22 n = 163 s = 2.88 n = 126

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YEARS $\bar{x}$ = 11.66 md = 8.00 MONTHS $\bar{x}$ = 5.19 md = 5.00
s = 11.45 n = 157 s = 2.85 n = 134

3. How would you rate your current level of satisfaction with your neighbourhood with respect to each of the following factors? Please rate your satisfaction on a 7 point scale where 1 is extremely dissatisfied, 7 is extremely satisfied and 4 is neither satisfied nor dissatisfied.

	EXTREMELY DISSATISFIED			NEITHER			EXTREMELY SATISFIED	$\bar{x}$	s	n
a) Availability of street parking.....	1	2	3	4	5	6	7			
	10.3	9.7	12.4	22.7	17.8	11.9	15.1	4.24	1.85	185
b) Level of street traffic	1	2	3	4	5	6	7			
	10.2	11.8	15.0	18.2	15.5	18.2	11.2	4.17	1.85	187
c) Physical appearance of the street .	1	2	3	4	5	6	7			
	4.3	7.0	12.4	17.2	28.5	21.0	9.7	4.60	1.56	186
d) Property values in the neighbourhood	1	2	3	4	5	6	7			
	3.3	5.5	7.1	23.1	29.1	18.7	13.2	4.78	1.49	182
e) Amount you socialise with your neighbours	1	2	3	4	5	6	7			
	2.2	6.5	8.6	31.9	20.0	17.8	13.0	4.06	1.48	185
f) Amount of visual privacy from your neighbourhood	1	2	3	4	5	6	7			
	5.9	10.3	17.3	16.8	20.0	20.0	9.7	4.33	1.70	185
g) Level of noise	1	2	3	4	5	6	7			
	8.6	11.2	16.6	12.3	17.6	21.9	11.8	4.32	1.85	187
h) Your overall satisfaction with the neighbourhood	1	2	3	4	5	6	7			
	0.5	2.1	6.4	17.1	26.7	32.6	14.4	5.23	1.25	187

The Non-Profit Housing Program is a combined federal-provincial initative aimed at helping non-profit housing agencies produce modest, cost-efficient housing for persons with low to moderate incomes.

4. Are you aware of non-profit housing in your neighbourhood?

Yes	1	59.0	$\bar{x}$ = 1.41
No	2	41.0	s = 0.99
			md = 1.00
			n = 183

5.a) Do you own or rent the dwelling you are presently living in?

Own	1	83.6	$\bar{x}$ = 1.16
Rent	2	16.4	s = 0.37
			md = 1.00
			n = 183

b) IF YOU OWN THIS DWELLING: What impact do you think non-profit housing projects have had on your property values? Please rate your answer on a scale from 1 to 7 where 1 is extremely negative, 7 is extremely positive, and 4 is no impact.

EXTREMELY NEGATIVE IMPACT			NO IMPACT			EXTREMELY POSITIVE IMPACT	DID NOT KNOW OF PROJECT UNTIL NOW
							9
1	2	3	4	5	6	7	
15.0	18.1	27.6	32.3	2.4	1.6	3.1	

$\bar{x}$ = 3.06
s = 1.36
n = 127

c) ANSWER ONLY IF YOU BOUGHT YOUR HOME AFTER 198_: How did the presence of a non-profit housing project in the neighbourhood effect your decision to purchase your dwelling? Please rate your answer on a 1 to 7 scale where 1 is extremely negative effect, 7 is an extremely positive effect, and 4 is have no effect.

EXTREMELY NEGATIVE FACTOR			NO IMPACT			EXTREMELY POSITIVE FACTOR
1	2	3	4	5	6	7
12.5	2.1	12.5	68.8	2.1	2.1	0.0

$\bar{x}$ = 3.52
s = 1.11
n = 48

II. PERCEPTIONS OF NON-PROFIT HOUSING

This next section deals with your perception of non-profit housing.

6. Please indicate whether you agree or disagree with the following statements about non-profit housing. Please rate your agreement on a scale from 1 to 7 where 1 means you strongly disagree 7 means you strongly agree and the midpoint 4 means you neither agree nor disagree.

	STRONGLY DISAGREE			NEITHER			STRONGLY AGREE	$\bar{x}$	s	n
a) Non-profit housing is a good idea	1	2	3	4	5	6	7			
	11.4	5.4	9.2	14.1	19.5	17.3	23.2	4.70	1.96	185
b) There is a need for non-profit housing in my city	1	2	3	4	5	6	7			
	16.2	3.2	5.4	14.5	16.1	22.0	28.5	5.03	1.91	186
c) I am willing to have more non-profit housing in my neighbourhood	1	2	3	4	5	6	7			
	35.1	11.4	9.2	11.4	9.7	9.7	13.5	3.32	2.32	185

7. How would the following factors influence your acceptance of non-profit housing projects? Please rate each answer on a 1 to 7 scale where 1 is substantially decrease, 7 is substantially increase, and 4 is no impact on your acceptance.

	SUBSTANTIALLY DECREASE			NO IMPACT		SUBSTANTIALLY INCREASE				
	1	2	3	4	5	6	7	$\bar{x}$	s	n
a) If the project had adequate parking space available for residents, my acceptance of non-profit housing project would	6.0	3.3	2.7	44.0	22.3	9.8	12.0	4.50	1.46	184
b) If design of the project was compatible with the rest of the neighbourhood, my acceptance of non-profit housing would	7.1	3.8	4.4	34.4	19.7	16.9	13.7	4.61	1.61	183
c) If there were a limited number of projects per neighbourhood, my acceptance of non-profit housing would	5.6	3.3	5.0	28.3	18.9	20.6	18.3	4.87	1.62	180
d) If the design of the project respected the privacy of adjacent lots, my acceptance of non-profit housing would	6.5	4.3	6.0	21.7	22.3	18.5	20.7	4.87	1.70	184
e) If the project housed people of similar background, interests and lifestyles compatible to the residents of the neighbourhood, my acceptance of non-profit housing would	7.7	1.6	3.8	34.6	17.6	17.6	17.0	4.74	1.64	182

THE FOLLOWING SECTION SHOULD BE ANSWERED ONLY BY THOSE RESIDENTS HAVING LIVED IN THEIR PRESENT DWELLING PRIOR TO 198_. OTHERWISE SKIP TO SECTION IV.

III PERCEPTIONS OF AND INVOLVEMENT IN THE PUBLIC CONSULTATION PROCESS

In some instances, prior to proceeding with a non-profit housing project, public consultation takes place. This may be through notifying neighbours of the project by notices in the mail, in newspapers and/or public meetings. The next series of questions relate to your satisfaction and involvement with the public consultation process prior to the development of the project.

8. **Do you remember where you first learned that a non-profit housing project was being undertaken?** (Please circle only one number from the list below.)

I did not know of this project until now	01	40.2
I saw the construction	02	11.8
I saw a notice in the newspaper	03	5.9
I heard about it on the radio	04	1.0
I saw something about in on television	05	2.0
I heard about it through neighbours, friends.	06	20.6
I received some information from City Hall ..	07	4.9
I received formal notification	08	2.9
I do not remember	09	8.8
Other	10	1.9

$\bar{x}$ = 3.76
s = 3.00
n = 102

9.a) **Do you feel you were given adequate notice that non-profit housing was being considered?** Please rate your answer on a 1 to 7 scale where 1 is extremely inadequate, 7 is extremely adequate and 4 is neither adequate nor inadequate.

EXTREMELY INADEQUATE			NEITHER			EXTREMELY ADEQUATE
1	2	3	4	5	6	7
44.8	9.0	13.4	20.9	9.0	0.0	3.0

$\bar{x}$ = 2.52
s = 1.66
n = 67

9.b) How accurately did the information you were given reflect the finalised project. Please rate your answer on a 1 to 7 point scale where 1 is extremely inaccurate, 7 is extremely accurate and 4 is neither accurate nor inaccurate.

EXTREMELY INACCURATE			NEITHER			EXTREMELY ACCURATE
1	2	3	4	5	6	7
20.7	10.3	10.3	43.1	10.3	0.0	5.2

$\bar{x}$ = 3.33
s = 1.59
n = 58

10.a) Did you or any member of your family take any action when you heard non-profit housing was being considered?

YES	1	20.8	$\bar{x}$ = 1.79
NO	2	79.2	s = 0.41
			n = 53

b) IF YOU TOOK ACTION: Did you: [Circle only one]

Contact neighbours	01	37.5	$\bar{x}$ = 2.37
Contact your Alderman, MPP	02	25.0	s = 1.41
Contact the provincial government	03	0.0	n = 8
Organise community resistance	04	37.5	
Other (please specify) ________________ ________________..	☐☐		

c) IF YOU TOOK ACTION: How would you rate the impact your actions had on the way in which the non-profit housing project proceeded? Please rate your answer on a 1 to 7 scale where 1 is a no impact, 7 is a high impact, and 4 is a moderate impact.

NO IMPACT			MODERATE IMPACT			HIGH IMPACT
1	2	3	4	5	6	7
36.4	9.1	18.2	18.2	0.0	18.2	0.0

$\bar{x}$ = 2.91
s = 1.92
n = 11

11.a) Overall, how satisfied were you with the public consultation and notification process while the project was in the proposal stage? Please rate your answer on a 1 to 7 scale where 1 is extremely dissatisfied, 7 is extremely satisfied and 4 is neither satisfied nor dissatisfied.

EXTREMELY DISSATISFIED			NEITHER			EXTREMELY SATISFIED
1	2	3	4	5	6	7
43.3	3.3	21.7	20.0	6.7	5.0	0.0

$\bar{x} = 2.58$
s = 1.60
n = 60

b) IF YOU WERE DISSATISFIED WITH THE PROCESS (1, 2 OR 3): Please indicate whether you agree or disagree with the following statement:

I would have been much more accepting of the project if I had been better informed about the process. Please rate your answer on the seven-point scale where 1 is completely disagree, 7 is completely agree and the midpoint 4 is neither agree nor disagree.

COMPLETELY DISAGREE			NEITHER			COMPLETELY AGREE
1	2	3	4	5	6	7
16.7	14.3	11.9	19.0	19.0	9.5	9.5

$\bar{x} = 3.76$
s = 1.91
n = 42

12. If further projects are going to take place in your neighbourhood, what kinds of information would you like to have?

IV. BACKGROUND CHARACTERISTICS

> To complete this questionnaire, we would like some basic information about the characteristics of yourself and your household.

13. Which of the following best describes your household? (Please circle one number from the list below.)

One person, living alone	01	14.3	
One adult with children	02	5.5	$\bar{x} = 3.25$
A married or common-law couple, without children	03	31.9	$s = 1.19$
A married or common-law couple, with children	04	40.1	$n = 182$
Two or more unrelated persons	05	6.0	
Two or were related persons	06	2.2	

Other (please specify) ______________________ . |_|_|

14. What is the highest level of formal education which you have achieved?

	GRADE COMPLETED		
Primary School	|_|_|	4.2	
High School	|_|_|	20.3	
Some community college	14	9.0	$\bar{x} = 14.94$
Community college graduate	15	11.3	$s = 2.90$
Some university	16	12.4	$n = 177$
University graduate	17	22.6	
Post graduate	18	18.6	

15. What is your present occupation (or former occupation, if retired)? (Please circle only one number from the list below.)

Labourer/semi-skilled/skilled tradesmen	01	14.5	
Sales, service, clerical	02	19.0	$\bar{x} = 2.62$
Professional/managerial or administrative	03	58.7	$s = 0.88$
Homemaker	04	5.6	$n = 179$
Student	05	2.2	

16. What is the language you first learned in childhood and still understand?

English	01	69.1	
French	02	11.6	$\bar{x}$ = 1.67
Bilingual	03	2.2	s = 1.14
Other	04	17.1	n = 181

17. Considering all sources, what was your approximate total household income in 1987 before taxes? Please include all sources including employment wages or salaries, pensions, investments, rents and payments from government. Please round to nearest thousand.

$\bar{x}$ = 47,300.00 s = 27,210.00
md = 43,000.00 n = 159

18. Do you have any further comments or concerns?

PLEASE RETURN THE COMPLETED QUESTIONNAIRE BY MAIL IN THE STAMPED SELF-ADDRESSED ENVELOPE PROVIDED.

THANK YOU VERY MUCH FOR PARTICIPATING IN THIS SURVEY. Your answers will help us to develop a full profile of experiences and perceptions about non-profit housing. Your contribution to this study will help the Ministry of Housing improve planning and ultimately benefit the province as a whole.

APPENDIX D

Field Report

D.1 INTRODUCTION

Ontario Non-Profit Housing Program is funded under a joint Federal and Provincial Agreement. The objectives of the program are: (1) to improve overall targeting of social housing; (2) to ensure access to geared-to-income housing to those most in need; and (3) to allow sufficient flexibility in income integration for community acceptance.

The path to achieving the goal of decent and affordable housing for all of those Ontarians in need is fraught with many obstacles (e.g., financial resource constraints, shortages of land in certain markets, local municipal cooperation, etc.). One of the most vexing and potentially destructive obstacles is neighbourhood resistance to such initiatives. Neighbourhood resistance emerges through an uneasy mixture of perceived (and real) threats to the social and economic well being of the citizens. Past research has shown many (if not most) of the fears concerning such housing initiatives to be more apparent than real. Yet in such matters what is perceived as reality will become reality. Therefore, it is imperative that public decision-makers and planners have reliable and valid knowledge about the *true* impacts of such initiatives (in diverse neighbourhood settings). Scientific knowledge of these impacts in the social housing field is the principal objective of the present research assignment.

Non-profit housing projects can be a significant source of conflict between residents of neighbourhoods and proponents of non-profit housing projects. Often media reports, municipalities and neighbours fear that these projects will reduce the property values of surrounding properties. In part this fear stems from the past when the types of projects which were completed were large scale high rises entirely devoted to low-income residents. Projects today are smaller scale, designed to complement the neighbourhood and aim to achieve a greater mix of incomes. (A minimum of 40 per cent of the units must be allocated to rent-geared-to-income households.) Nevertheless, the fears still exist. Other concerns include the impacts of the projects on the availability of parking, the level of street traffic, the level of noise and the aesthetics of the neighbourhood.

In light of the concerns about the impact of non-profit housing projects on property values and the Province's committment to develop more affordable housing, the Ministry has identified the need for a credible, scientific study which documents the impact of non-profit development on property values.

A secondary study objective is to determine the perceptions of neighbours regarding the impact of non-profit housing projects on the quality of the neighbourhood (e.g., parking, traffic, appearance, etc.). From our other work and review of the literature we also know that public perceptions often do not accurately reflect objective conditions. However, perceptions are often more potent than real risks in influencing community response.

The central study question is: "Did the introduction of non-profit housing have an effect on property values of surrounding properties, if so, how much and in what direction?" In order to measure these effects, a non-equivalent control group quasi-experimental design was used. This involved the judicious selection of a set of control properties against which to compare the findings obtained from the treatment properties. The treatment was defined as exposure to a non-profit housing project. The control property is defined as a property with the following criteria:

- at least ten houses away from the non-profit project;
- similar building structure;
- similar size;
- similar physical condition;
- not a non-profit project unit (nor any non-profit projects within ten houses on either side, in front of or behind properties); and
- located in the same neighbourhood.

Exhibit 1.1 presents our design Our observations (as denoted by O's in our design) are the sales data from dwelling units identified within the zones of influence. The sales data range between 1980 and 1988. The treatment group contains those properties in the defined zone of influence of a converted property, which have been sold during the period 1980 to 1988.

The treatment (as denoted X in our design), or exposure may have occurred between late 1981 and 1986. All sales data previous to the year the project was developed will be included in the pre development cell, while all sales data in the year subsequent to the development date will be included in the post development cell. This is an important point to remember as treatments are usually fixed in time and constant for all observations. Our treatment varies by observation.

In the strictest sense, the approach was not quite a quasi-experimental design, but for all practical purposes it is close enough. More precisely, the design *was ex post facto* since it approximated an experimental design from past, naturally occurring events. An important point to remember is that the focus of the research is on the effect of non-profit housing on surrounding property values. Surrounding property values are viewed as attributes of the original sample of treatment and control properties.

EXHIBIT 1.1
Quasi-Experimental Design

	PRE		POST
Treatment (Non-Profit Housing)	0^1	X	0^2
Control (Absence of Non-Profit Housing)	0^3	X	0^4

Legend: O = Observation on Sales Data
X = Exposure to Non-Profit Housing

This study describes in detail the field work undertaken during the data collection phase of the study in terms of the two objectives. First, the sample selection will be reviewed. The report will then focus on the administration of the field work. This will be followed by a description of the agenda for the remaining research tasks.

D.2 SAMPLE SELECTION

The population for this study was the universe of non-profit housing projects developed between late 1981 and 1986 in the cities of Toronto, Ottawa and North Bay. The population was further restricted to projects in primarily residential neighbourhoods and excluded large homogeneous neighbourhood developments, flagship developments, rehabilitation developments, group homes, transitional housing and included only minimal special needs housing.

The target analysis sample was originally set at 67 - 40 in Toronto, 20 in Ottawa and seven in North Bay. Given these numbers, the number of expected neighbourhood perception survey returns was estimated at just over 500.

The sampling frame for the study was a list of non-profit housing projects in Toronto, Ottawa and North Bay provided by the Ministry of Housing. There were some problems with these lists which made field work difficult. Numerous projects listed were without addresses which made it difficult to comprehend the proximity of some projects to commercial areas, as well as other non-profit project. Unfortunately, the regional offices were unable to provide detailed descriptions of the areas surrounding some of the projects.

All projects listed in Toronto (or the boroughs) and North Bay, as well as all of the projects considered viable by the regional office in Ottawa for the Ottawa area, were investigated through on site visits to establish the feasibility of each project individually. In each, the project was identified and the availability and types of dwellings surrounding the project were assessed, as well as the existence of other non-profit projects in the area. If a project was considered to be viable preliminary work was done to assess the possibility finding a suitable control in the neighbourhood. In all, 114 projects were assessed in this way to achieve field work for 51 projects.

D.3 ADMINISTRATION OF FIELD WORK

Ekos assembled a team of 15 field workers, of which four were survey supervisors. Training began with a review of the rationale, objectives and issues for the study as well as the sampling selection concerns and field methodology. The field teams were then given further detailed through training on-site at one of the actual non-profit housing projects in both Toronto and Ottawa (Ottawa field teams later conducted field work in North Bay) for "hands-on" training. This training session reviewed in more detail identification of the selection of an appropriate control unit, the zones of influence, the visual inspections, matching criteria and the completion and distribution of the surveys and identification forms.

At each site photographs were taken of the project and the surrounding area was mapped out delineating addresses, structures and zones of influence. Each address was rated on three items of physical condition; the overall structural condition of the dwelling, the need for repairs and the overall condition of the lot surrounding the dwelling. All questionnaires were given unique identifying numbers, so it could be traced to the project it surrounded and its position in the area with respect to the project. Once questionnaires were dropped off, the project team identified a suitable control and followed the same procedures as in the treatment group, from the photograph (and completion of a control selection form) through the mapping and physical inspection, to the identification on questionnaires and the drop-off.

In choosing the control, the project team moved a minimum of ten building structures from the sampled project. In many cases, however, control units were found as far away as several blocks from the project in order that the control unit and the surrounding neighbourhood were matched as closely as possible. The utmost attention was paid to finding a control in the same neighbourhood, which had the same or similar dwellings around it. The control unit was matched in size, shape and age as closely as possible in most cases. In a few, however, the match of the control unit itself to that of the project was sacrificed in order to meet the matching criteria of the surrounding dwellings within the same neighbourhood.

The field work spanned two weeks. The working day went from 9:00 am to 5:00 pm. and an average of two projects per research team were completed each day. Records identifying problems and characteristics were kept for each case to be used in the analysis phase of the project.

D.4 FIELD RESULTS

Due to factors beyond the research team's control, the targeted number of overall projects was not achieved. The nature of the stock of non-profit housing projects in the three selected cities and the criteria for inclusion in the sample served to disqualify many of the existing projects, leaving only 30 projects in Toronto. 15 in Ottawa and six in North Bay suited for analysis. *All* qualifying projects were included into the sample. To compensate for the lack of qualified projects, the zones of influence, as well as the number of questionnaires dropped off, were increased. Consequently, the sample size approaches that were discussed in our original design for both the units influenced by the projects and the neighbourhood perception surveys.

A final completed sample of 1.147 treatment unites and 1,138 control units were obtained. This resulted in the identification of 22.5 dwelling units per project within the treatment zones of influence and 22.3 dwelling units per control within the control zones of influence.

As mentioned in section two, 114 projects were examined in order to obtain 51 projects that were viable for the field work of this study. One of the problems encountered with projects listed was the close proximity of the project to other existing non-profit developments (i.e., across the street or next door to one another). Many projects (particularly in the Toronto Metropolitan Area) were removed from the sample as the surrounding area was too commercial. Some of the projects that were identified as residential, did border schools and shopping malls or other structures which were not private dwellings which rendered them inappropriate. A number of projects were large, flagships and some were extremely homogeneous projects in homogeneous areas. Quite a number also had insufficient dwellings surrounding it to include in the sample (i.e., the potential was very low for obtaining sales data or survey data), although in Toronto some of the best projects of this type were included in the sample to obtain a minimum number of projects required for the study.

Overall, of the 78 projects listed in the Toronto area, 30 were found to be viable and were included in the final sample. Of these, 24 were family residences, four were mixed and two were projects accommodating senior citizens. In Ottawa, 28 projects were included in the list, of which 15 were viable and could be included in the final sample. These included 14 family and one mixed residences. In North Bay, of the eight projects listed, six were able to be included in the final sample. Five of those were family residences and one was a senior citizens residence.

A total of 1,808 questionnaires were distributed during the field work. Forty questionnaires were dropped off in each of the Ottawa and North Bay projects (i.e., 600 and 240 total questionnaires in each of these cities, respectively). It was estimated that 35 projects would be completed in Toronto, however, only 30 were possible given the sample frame. Some of the Toronto projects chosen, in fact, did not have the optimal number of zones of influence around it and fewer questionnaires were distributed (968). Based on this overall total of questionnaires distributed, we expect approximately 450 questionnaires to be returned based on the 25 per cent response rate originally projected. As the field work was delayed by three weeks and occurred closer to the holiday season than was originally projected, it is possible that the response rate may be slightly lower.

APPENDIX E

Teela Data Capture Forms

TEELA DATA CAPTURE FORM

e Number: ____ Project: ☐ or Control: ☐

Zone of Influence:

Primary ☐ or Secondary: ☐

dress: ____	Address: ____	Address: ____	Address: ____
I.D. Number:	I.D. Number:	I.D. Number	
Year:	Year:	Year:	Year:
Price:	Price:	Price:	Price:
Year:	Year:	Year:	Year:
Price:	Price:	Price:	Price:
Year:	Year:	Year:	Year:
Price:	Price:	Price:	Price:
Year:	Year:	Year:	Year:
Price:	Price:	Price:	Price:
Year:	Year:	Year:	Year:
Price:	Price:	Price:	Price:

APPENDIX F

Field Contact Sheet

NON-PROFIT HOUSING
Neighbour Contact Record

Date: ☐☐ ☐☐ ☐☐
DAY MONTH YEAR

Interviewer Name: ________________________________

Case Study Number: ☐☐

Zone Number: ☐☐

Record of Contact

Occupant I.D.	TIME Hours	Minutes	Results Code	Comments

Result Codes

01	Respondent Contacted - Refused
02	Respondent Contacted - Dropped off Questionnaire to adult over 18 years
03	Respondent Contacted - Dropped off Questionnaire to someone under 19 years
04	Respondent Contacted - Not dropped off, problem e.g., language illness
05	Respondent Not Contacted - No answer
06	Commercial Building
07	Other

1. Type of dwelling:

Single house	1
Semi-detached on double house	2
Duplex	3
Row house	4
Converted	5
Low rise apartment	6
Commercial	7

2. How would you rate the overall condition of this dwelling on the basis of your inspection of the exterior and considering both structural and surface conditions?

Top Condition			Minor Attention Required		Major Attention Required	
1	2	3	4	5	6	7

3. Is this dwelling in need of any repairs? (Do not include desirable remodelling or additions.)

No, only regular maintenance is needed (painting, etc.) 1

Yes, minor repairs are needed (bricks or shingles, defective steps, railing or siding, windows and doors, etc.) 2

Yes, major repairs are needed (structural repairs to walls, roof, etc.) 3

4. Provide a general rating of the condition of the lot in terms of upkeep (e.g., consider presence of junk, garbage, weeds, etc.).

Superior			Moderate			Terrible
1	2	3	4	5	6	7

CONTROL SELECTION FORM

Case Number:

Zone Number:

Address:

Street

Personal Code:

1. **Type of dwelling:**

Single house	1
Semi-detached on double house	2
Duplex	3
Row house	4
Converted	5
Low rise apartment	6
Commercial	7

2. **How would you rate the overall condition of this dwelling on the basis of your inspection of the exterior and considering both structural and surface conditions?**

Top Condition			Minor Attention Required		Major Attention Required	
1	2	3	4	5	6	7

3. **Is this dwelling in need of any repairs? (Do not include desirable remodelling or additions.)**

No, only regular maintenance is needed (painting, etc.)	1
Yes, minor repairs are needed (bricks or shingles, defective steps, railing or siding, windows and doors, etc.)	2
Yes, major repairs are needed (structural repairs to walls, roof, etc.)	3

4. Provide a general rating of the condition of the lot in terms of upkeep (e.g., consider presence of junk, garbage, weeds, etc.).

Superior			Moderate			Terrible
1	2	3	4	5	6	7

5. Photograph:

6. Comparison: How well does this control match the case dwelling in:

	NOT WELL AT ALL			MODERATELY WELL			EXTREMELY WELL
a. Age	1	2	3	4	5	6	7
b. Size	1	2	3	4	5	6	7
c. Immediate area surrounding the property	1	2	3	4	5	6	7

Evaluation of Property Value Impacts: Non-Profit Housing

Prepared for the Ontario Ministry of Housing
by
Ekos Research Associates Inc.

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